DOCUMENT RESUME

ED 353 909 HE 026 167

| | |
|---|---|
| AUTHOR | Saint, William S. |
| TITLE | Universities in Africa: Strategies for Stabilization and Revitalization. World Bank Technical Paper No. 194, Africa Technical Department Series. |
| INSTITUTION | World Bank, Washington, D. C. |
| SPONS AGENCY | Canadian International Development Agency, Ottawa (Ontario).; Ford Foundation, New York, N.Y.; Rockefeller Foundation, New York, N.Y. |
| REPORT NO | ISBN-0-8213-2310-5; ISSN-0253-7494 |
| PUB DATE | Dec 92 |
| NOTE | 169p. |
| AVAILABLE FROM | Distribution Unit, Office of the Publisher, Department F, The World Bank, 1818 H Street, N.W., Washington, DC 20433 ($10.95). |
| PUB TYPE | Reports - Research/Technical (143) |
| EDRS PRICE | MF01 Plus Postage. PC Not Available from EDRS. |
| DESCRIPTORS | Access to Education; College Administration; *Developing Nations; Donors; *Educational Change; Educational Finance; Educational Quality; Enrollment; Equal Education; Foreign Countries; Governance; Government School Relationship; Graduate Study; Higher Education; Program Effectiveness; Public Policy; Relevance (Education); Undergraduate Study; *Universities |
| IDENTIFIERS | *Africa |

ABSTRACT

This publication presents the results of a study on how to overcome the current crisis of quality, relevance and finance in African universities. The analysis developed from the 1988 policy study, "Education in Sub-Saharan Africa," and discussion within the Donors to African Education Working Group on Higher Education. In 12 chapters the report catalogues the accomplishments of African universities, identifies current problems, and signals likely solutions. Chapter 1 describes the need for renewal in the context of accomplishments. Chapter 2 looks at the scope of the problem, discussing enrollments, finances, educational quality and relevance. Chapter 3 treats institutional effectiveness including national roles, national needs, research for development, community service, access and diversity, and assessment. Chapter 4 reflects on university/state relations. Chapter 5 details progress and potential for financial diversification and related issues. Chapter 6 examines management of costs, staff/student ratios, information and planning. Chapter 7 examines ways of improving governance for stability and innovation. Chapter 8 expands the discussion of maintaining relevance in a changing world. Chapter 9 looks at preserving quality education. Chapter 10 discusses how to manage the social demand for access and equity. Chapter 11 details the role of donor institutions. Chapter 12 makes recommendations for initiating reform. A 136-item bibliography is included. (JB)

HE

ED353909

WORLD BANK TECHNICAL PAPER NUMBER 194
AFRICA TECHNICAL DEPARTMENT SERIES

# Universities in Africa

## Strategies for Stabilization and Revitalization

William S. Saint

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN **OTHER THAN PAPER COPY** HAS BEEN GRANTED BY

World Bank

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

1 HE 026 167



BEST COPY AVAILABLE

RECENT WORLD BANK TECHNICAL PAPERS

No. 130 Agnes Kiss, editor, *Living with Wildlife: Wildlife Resource Management with Local Participation in Africa*

No. 131 Nair, *The Prospects for Agroforestry in the Tropics*

No. 132 Murphy, Casley, and Curry, *Farmers' Estimations as a Source of Production Data: Methodological Guidelines for Cereals in Africa*

No. 133 Agriculture and Rural Development Department, ACIAR, AIDAB, and ISNAR, *Agricultural Biotechnology: The Next "Green Revolution"?*

No. 134 de Haan and Bekure, *Animal Health in Sub-Saharan Africa: Initial Experiences with Alternative Approaches*

No. 135 Walshe, Grindle, Nell, and Bachmann, *Dairy Development in Sub-Saharan Africa: A Study of Issues and Options*

No. 136 Green, editor, *Coconut Production: Present Status and Priorities for Research*

No. 137 Constant and Sheldrick, *An Outlook for Fertilizer Demand, Supply, and Trade, 1988/89–1993/94*

No. 138 Steel and Webster, *Small Enterprises under Adjustment in Ghana*

No. 139 Environment Department, *Environmental Assessment Sourcebook*, vol. I: *Policies, Procedures, and Cross-Sectoral Issues*

No. 140 Environment Department, *Environmental Assessment Sourcebook*, vol. II: *Sectoral Guidelines*

No. 141 Riverson, Gaviria, and Thriscutt, *Rural Roads in Sub-Saharan Africa: Lessons from World Bank Experience*

No. 142 Kiss and Meerman, *Integrated Pest Management and African Agriculture*

No. 143 Grut, Gray, and Egli, *Forest Pricing and Concession Policies: Managing the High Forest of West and Central Africa*

No. 144 The World Bank/FAO/UNIDO/Industry Fertilizer Working Group, *World and Regional Supply and Demand Balances for Nitrogen, Phosphate, and Potash, 1989/90-1995/96*

No. 145 Ivanek, Nulty, and Holcer, *Manufacturing Telecommunications Equipment in Newly Industrializing Countries: The Effect of Technological Progress*

No. 146 Dejene and Olivares, *Integrating Environmental Issues into a Strategy for Sustainable Agricultural Development: The Case of Mozambique*

No. 147 The World Bank/UNDP/CEC/FAO, *Fisheries and Aquaculture Research Capabilities and Needs in Asia: Studies of India, Thailand, Malaysia, Indonesia, the Philippines, and the ASEAN Region*

No. 148 The World Bank/UNDP/CEC/FAO, *Fisheries and Aquaculture Research Capabilities and Needs in Latin America: Studies of Uruguay, Argentina, Chile, Ecuador, and Peru*

No. 149 The World Bank/UNDP/CEC/FAO, *Fisheries and Aquaculture Research Capabilities and Needs in Africa: Studies of Kenya, Malawi, Mozambique, Zimbabwe, Mauritania, Morocco, and Senegal*

No. 150 The World Bank/UNDP/CEC/FAO, *International Cooperation in Fisheries Research*

No. 151 The World Bank/UNDP/CEC/FAO, *Tropical Aquaculture Development: Research Needs*

No. 152 The World Bank/UNDP/CEC/FAO, *Small-Scale Fisheries: Research Needs*

No. 153 The World Bank/UNDP/CEC/FAO, *Small Pelagic Fish Utilization: Research Needs*

No. 154 Environment Department, *Environmental Assessment Sourcebook*, vol. III: *Guidelines for Environmental Assessment of Energy and Industry Projects*

No. 155 Bélot and Weigel, *Programs in Industrial Countries to Promote Foreign Direct Investment in Developing Countries*

No. 156 De Geyndt, *Managing Health Expenditures under National Health Insurance: The Case of Korea*

No. 157 Critchley, Reij, and Seznec, *Water Harvesting for Plant Production*, vol. II: *Case Studies and Conclusions for Sub-Saharan Africa*

No. 158 Hay and Paul, *Regulation and Taxation of Commercial Banks during the International Debt Crisis*

(List continues on the inside back cover)

WORLD BANK TECHNICAL PAPER NUMBER 194
AFRICA TECHNICAL DEPARTMENT SERIES

# Universities in Africa

## Strategies for Stabilization and Revitalization

William S. Saint

The World Bank
Washington, D.C.

Copyright © 1992
The International Bank for Reconstruction
and Development/THE WORLD BANK
1818 H Street, N.W.
Washington, D.C. 20433, U.S.A.

All rights reserved
Manufactured in the United States of America
First printing December 1992

Technical Papers are published to communicate the results of the Bank's work to the development community with the least possible delay. The typescript of this paper therefore has not been prepared in accordance with the procedures appropriate to formal printed texts, and the World Bank accepts no responsibility for errors.

The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent. The World Bank does not guarantee the accuracy of the data included in this publication and accepts no responsibility whatsoever for any consequence of their use. Any maps that accompany the text have been prepared solely for the convenience of readers; the designations and presentation of material in them do not imply the expression of any opinion whatsoever on the part of the World Bank, its affiliates, or its Board or member countries concerning the legal status of any country, territory, city, or area or of the authorities thereof or concerning the delimitation of its boundaries or its national affiliation.

The material in this publication is copyrighted. Requests for permission to reproduce portions of it should be sent to the Office of the Publisher at the address shown in the copyright notice above. The World Bank encourages dissemination of its work and will normally give permission promptly and, when the reproduction is for noncommercial purposes, without asking a fee. Permission to copy portions for classroom use is granted through the Copyright Clearance Center, 27 Congress Street, Salem, Massachusetts 01970, U.S.A.

The complete backlist of publications from the World Bank is shown in the annual *Index of Publications*, which contains an alphabetical title list (with full ordering information) and indexes of subjects, authors, and countries and regions. The latest edition is available free of charge from the Distribution Unit, Office of the Publisher, Department F, The World Bank, 1818 H Street, N.W., Washington, D.C. 20433, U.S.A., or from Publications, The World Bank, 66, avenue d'Iéna, 75116 Paris, France.

ISSN: 0253-7494

William S. Saint is a higher education specialist in the Education and Training Division of the Africa Technical Department of the World Bank.

**Library of Congress Cataloging-in-Publication Data**

Saint, William S.
Universities in Africa : strategies for stabilization and revitalization / William S. Saint.
p. cm. — (World Bank technical paper, ISSN 0253-7494 ; no. 194)
Includes bibliographical references.
ISBN 0-8213-2310-5
1. Universities and colleges—Africa. 2. Education, Higher—Africa—Aims and objectives. 3. Educational change—Africa.
I. Title. II. Series.
LA1503.S23 1992
378.6—dc20 92-41398
CIP

## AFRICA TECHNICAL DEPARTMENT SERIES

### *Technical Paper Series*

No. 122 Dessing, *Support for Microenterprises: Lessons for Sub-Saharan Africa*

No. 130 Kiss, editor, *Living with Wildlife: Wildlife Resource Management with Local Participation in Africa*

No. 132 Murphy, Casley, and Curry, *Farmers' Estimations as a Source of Production Data: Methodological Guidelines for Cereals in Africa*

No. 135 Walshe, Grindle, Nell, and Bachmann, *Dairy Development in Sub-Saharan Africa: A Study of Issues and Options*

No. 141 Riverson, Gaviria, and Thriscutt, *Rural Roads in Sub-Saharan Africa: Lessons from World Bank Experience*

No. 142 Kiss and Meerman, *Integrated Pest Management and African Agriculture*

No. 143 Grut, Gray, and Egli, *Forest Pricing and Concession Policies: Managing the High Forests of West and Central Africa*

No. 157 Critchley, Reij, and Seznec, *Water Harvesting for Plant Production*, vol. II: *Case Studies and Conclusions for Sub-Saharan Africa*

No. 161 Riverson and Carapetis, *Intermediate Means of Transport in Sub-Saharan Africa: Its Potential for Improving Rural Travel and Transport*

No. 165 Kellaghan and Greaney, *Using Examinations to Improve Education: A Study in Fourteen African Countries*

No. 179 Speirs and Olsen, *Indigenous Integrated Farming Systems in the Sahel*

No. 181 Mining Unit, Industry and Energy Division, *Strategy for African Mining*

No. 188 Silverman, *Public Sector Decentralization: Economic Policy and Sector Investment Programs*

### *Discussion Paper Series*

No. 82 Psacharopoulos, *Why Educational Policies Can Fail: An Overview of Selected African Experiences*

No. 83 Craig, *Comparative African Experiences in Implementing Educational Policies*

No. 84 Kiros, *Implementing Educational Policies in Ethiopia*

No. 85 Eshiwani, *Implementing Educational Policies in Kenya*

No. 86 Galabawa, *Implementing Educational Policies in Tanzania*

No. 87 Thelejani, *Implementing Educational Policies in Lesotho*

No. 88 Magalula, *Implementing Educational Policies in Swaziland*

No. 89 Odaet, *Implementing Educational Policies in Uganda*

No. 90 Achola, *Implementing Educational Policies in Zambia*

No. 91 Maravanyika, *Implementing Educational Policies in Zimbabwe*

No. 101 Russell, Jacobsen, and Stanley, *International Migration and Development in Sub-Saharan Africa*, vol. I: *Overview*

No. 102 Russell, Jacobsen, and Stanley, *International Migration and Development in Sub-Saharan Africa*, vol. II: *Country Analyses*

No. 132 Fuller and Habte, editors, *Adjusting Educational Policies: Conserving Resources while Raising School Quality*

No. 147 Jaeger, *The Effects of Economic Policies on African Agriculture: From Past Harm to Future Hope*

No. 175 Shanmugaratnam, Vedeld, Massige, and Bovin, *Resource Management and Pastoral Institution Building in the West African Sahel*

No. 181 Lamboray and Elmendorf, *Combatting AIDS and Other Sexually Transmitted Diseases in Africa: A Review of the World Bank's Agenda for Action*

No. 184 Spurling, Pee, Mkamanga, and Nkwanyana, *Agricultural Research in Southern Africa: A Framework for Action*

## *Abstract*

This study explores what can be done to overcome the current crisis of quality, relevance and finance in African universities. It catalogues the accomplishments of African universities, identifies current problems, and signals likely solutions. It analyzes pertinent experience in seven key areas where changes are needed: university/state relations, financial diversification, management, governance, relevance, quality preservation, and managing the social demand for higher education. It suggest how a process of higher education reform can be initial, and outlines complementary roles for government, universities and donors in this process.

# *Acknowledgements*

*Universities in Africa* was prepared by William S. Saint with significant financial support from the Ford Foundation. Background papers by N'Dri Thérèse Assie-Lumumba (francophone higher education), Robert D.D. Blair (financial diversification), and Kilemi Mwiria (university governance) made important contributions to this study, and were funded in part by the Canadian International Development Agency and the Rockefeller Foundation. Brajesh Panth contributed statistical analyses. Comments on various drafts by World Bank colleagues, the Association of African Universities, leaders of African higher education, members of the DAE Working Group on Higher Education, and independent reviewers helped to shape and refine the analysis. The document was edited by Leo Demesmaker, and desktop published by Margareta J. Verbeeck.

# *Foreword*

The universities of Africa are in crisis. Enrollments rise as capacities for government support decline. Talented staff are abandoning the campuses, libraries are out-dated, research output is dropping, students are protesting overcrowded and inhospitable conditions, and educational quality is deteriorating. The need for action is urgent. What can be done to reverse these trends and initiate institutional recovery?

These questions guide this study. Evidence from many African university campuses suggests that a response to this crisis, although still piecemeal, is emerging. Increasingly, African institutions of higher learning are strengthening management, broadening their financial base, and upgrading the performance of students and faculty. In a few cases major reforms of institutional and even whole higher education systems are underway.

Strong universities are vital for enhancing African capacities to plan and manage national affairs. Africa's university graduates and future leaders will be expected to direct Africa's efforts to devise appropriate economic models and new forms of political expression; craft effective responses to the challenges of urbanization, AIDS, and environmental degradation; and meld traditional and modern cultures into a compatible national character for the twenty-first century. Without academically and financially viable universities, Africa's future will be forfeit.

For those who lead and support these changes, this study provides guidance for improvements in university governance, finance, management, relevance, and quality. Building on the 1988 policy study, *Education in Sub-Saharan Africa*, and nourished by discussion within the Donors to African Education (DAE) Working Group on Higher Education, this study catalogues the accomplishments of African universities during their relatively short existence, identifies current problems, and signals likely solutions. More importantly, it suggests a process of higher education reform and outlines complementary roles for governments, the universities, and donors.

Ismail Serageldin
Director
Technical Department
Africa Region

# *Table of Contents*


| | | |
|---|---|---|
| *Executive Summary* | | xi |
| *Chapter 1.* | *A Call for Renewal* | 1 |
| | What Has Been Accomplished | 1 |
| | Why Changes Are Appropriate | 3 |
| *Chapter 2.* | *The Scope of the Problem* | 7 |
| | Enrollments | 8 |
| | Higher Education Finances | 8 |
| | Educational Quality | 11 |
| | Relevance | 14 |
| *Chapter 3.* | *Effectiveness* | 15 |
| | National Institution Building | 15 |
| | Training for National Needs | 16 |
| | Research for Development | 24 |
| | Community Service | 26 |
| | Access and Diversity | 27 |
| | Assessing Effectiveness | 31 |
| *Chapter 4.* | *University/State Relations* | 32 |
| | University/State Conflicts | 32 |
| | Government Involvement in University Affairs | 34 |
| | Financial Aspects of University/State Relations | 35 |
| | Towards Improved University/State Relations | 37 |
| *Chapter 5.* | *Progress and Potential for Financial Diversification* | 40 |
| | The Financial Relationship between Governments and Universities | 41 |
| | Private Universities | 42 |
| | Progress in University Financial Diversification | 43 |
| | Cost Recovery | 45 |
| | Income Enhancing Alternatives | 51 |

| | | |
|---|---|---|
| | An Enabling Institutional Environment | 58 |
| | Conclusions | 58 |
| *Chapter 6.* | *Management: The Challenge of Doing More with Less* | 60 |
| | Unit Costs | 62 |
| | Staff/Student Ratios | 63 |
| | Non-Academic Staff/Student Ratios | 66 |
| | Management Information Systems | 67 |
| | Capacities for Strategic Planning | 69 |
| *Chapter 7.* | *Improving Governance for Stability and Innovation* | 71 |
| | University Governance Structures | 71 |
| | Improving Governance for Innovation | 77 |
| *Chapter 8.* | *Maintaining Relevance in a Changing World* | 79 |
| | Institutional Flexibility and Adaptability | 79 |
| | Revitalizing Research | 86 |
| | Conclusions | 89 |
| *Chapter 9.* | *Preserving Quality* | 91 |
| | Student Drop-out/Repetition | 92 |
| | Creating a Culture of Quality | 93 |
| | Minimum Financial Requirements for Preserving Quality | 102 |
| *Chapter 10.* | *Managing Social Demand: Access and Equity* | 109 |
| | Differential Systems | 107 |
| | Distance Learning | 108 |
| | Selective Admissions | 109 |
| | Equity of Access | 109 |
| | Conclusions | 112 |
| *Chapter 11.* | *The Role of Donors* | 113 |
| | Recommendations | 116 |
| | Building a Local Donor Community | 119 |
| *Chapter 12.* | *Initiating Reform* | 121 |
| | Building Consensus | 122 |
| | Creating a Supportive Environment | 125 |
| | What is the Government's Role? | 126 |
| | What is University's Role? | 127 |
| | Towards An Agenda for Higher Education Reform | 129 |
| *Bibliography* | | 130 |

# *Executive Summary*

By world standards, African universities are still very young. Yet they have accomplished much. They have grown from just six institutions in 1960 to some 97 today, with a corresponding rise in enrollments. They have developed relevant curricula and revised its content to reflect African priorities, legitimized research and established specialized university research units, largely replaced expatriate faculty with indigenous staff, and fostered fledgling intellectual communities. A major achievement has been to produce the skilled human resources required to staff and manage public and private institutions in the newly independent states.

In the course of their brief history, thinking about the role of universities has also evolved. In francophone Africa, the early classical approach is giving way to a more utilitarian orientation. For anglophone universities, governments have tended to encourage a technocratic definition of their role, which has been reinforced by the current economic crisis on the continent. In contrast, some African observers see a potential for universities to build upon the strengths of traditional culture to foster modernization. There is much to suggest that African universities are nearing the end of their initial phase of development. A series of second generation problems has begun to appear, among them issues of financing, relevance, efficiency, quality and university/state relations. In many countries, conditions which engender these issues have deteriorated to the point where the need for action is now urgent.

Africa's universities currently stand in crisis at a pivotal point in their development. The mandates given to them at independence now require reassessment as a result of changes in the world, in Africa, and in the universities themselves. Internationally, the emergence of global markets has created a competitive world economic system characterized by rapid knowledge generation and technological innovation. These changes affect local labor markets and the types of skills they require. Within Africa, high population growth rates and increased access to education have boosted the social demand for higher education, leading to rising university enrollments and a proliferation of tertiary institutions. Universities have also changed, becoming mass-based and diversified institutions operating under severe financial constraints.

Against this backdrop, a cluster of critical concerns now frames discussion concerning the future form and substance of higher education in Africa. Principal among them are apparent declines in educational quality, questions of curriculum relevance and appropriate distribution of students among

the principal disciplines, the high and often unsustainable costs of university training, a need for improved university management, an ineffective working relationship between government and university, and equity issues surrounding access to higher education. In order to address these concerns, African nations must first answer two questions. What kind of university do we need? What kind of university can we afford?

### *The Scope of the Problem*

To varying degrees, the universities of Sub-Saharan Africa face four common problems. First, enrollments are often increasing faster than the capacity to plan for and accommodate this growth. University student population on the continent grew by 61 percent between 1980 and 1990, rising from 337,000 to an estimated 542,700. At least five types of higher education systems can be distinguished in the region. These include (i) small systems with stable or declining growth rates, (ii) small but slowly expanding systems, (iii) small but rapidly expanding systems, (iv) medium-sized systems with some institutional differentiation, and (v) large multi-institutional systems.

Second, current patterns of higher education expenditure are unsustainable in many cases. The model of publicly supported residential universities is inequitable and financially inefficient. During the 1980s, the capacity of African governments to finance public services fell sharply. Higher education suffered in consequence, with its share of overall education sector budgets sliding from 19.1 percent in 1980-84 to 17.6 percent in 1985-88. Recurrent budget expenditures per student, measured in constant terms, also fell by about two-thirds during this period. This was not due to efficiency gains through improved management, but was the result of cutbacks in research, staff development, library acquisitions and maintenance prompted by rising enrollments.

Third, there is general agreement that educational quality is declining as the result of increased enrollments and/or reduced funding. This loss has been the subject of widespread comment on the continent, and is manifested in falling student examination scores, reduced rigor in staff recruitment and promotion criteria, diminished research output, and complaints by employers regarding the ability of university graduates to perform.

Fourth, the relevance of universities to national needs is a growing concern for both government and citizens. Relevance is understood to include educational choices within the university that are germane to the national economy and in tune with the prevailing labor market, some capacity for critical and innovative thinking on issues of national importance, the transmission of essential professional and cultural values, institutional process and behavior that equip graduates for leadership in society, and regional, gender and ethnic representation in the composition of staff and students, and in the content of curricula. Rising graduate unemployment, inadequate performance on the job, and weak research production combine to bring the relevance of universities under growing scrutiny.

### *Assessing University Effectiveness*

How well have universities done in achieving their stated goals? As defined historically, these goals have been essentially five: (1) to transform themselves into legitimate national institutions of higher learning; (2) to produce the skilled human resources necessary to manage newly independent countries; (3) to generate developmentally relevant research; (4) to provide community service; and (5) to constitute a diverse and representative student body.

African universities have registered remarkable progress in their efforts to become legitimate national institutions of higher learning. The proportion of indigenous teaching staff has risen from 64 percent in 1978-79 to 84 percent in 1986-87. Curricula were also revised to incorporate national content and interests, and graduate training programs were launched. Graduate output in the region has risen impressively from 17,000 in 1970 to 83,000 in 1987. Two general approaches to university access can be discerned. One is supply driven with an implicit rationale that increased numbers of university graduates will benefit the country in the long run by upgrading the qualifications of the work force. The other has been to limit access in the effort to insure quality control and guarantee competence in areas of critical need.

The output mix of African universities has come under increasing scrutiny as their initial task of producing professionals to lead and manage the institutions of government has been largely accomplished, and spreading policies of economic liberalism seek to promote more diversified local economies. A majority of countries have under 15 percent of their university students enrolled in natural sciences, math and engineering. In one-third of African countries, the proportion of students in the sciences actually declined during the 1980s. This has prompted calls to increase the numbers of students in science areas, and to strengthen science education, particularly at the secondary level.

Attracting and retaining talented staff has now become the biggest current problem for many African universities. Declining salaries, deteriorating working conditions, and increasing numbers of students, sometimes exacerbated by un-supportive political conditions, have prompted many staff to seek a better situation elsewhere. As a result, many universities are left with young, inexperienced and insufficiently trained staff who lack the necessary mentors and role models to guide them. Some universities have recently been forced to curtail enrollments and postpone graduations due to staff shortages.

Research output has lagged behind the training accomplishments of African universities. Lack of national investment in research is one reason for this weak performance. The African Academy of Sciences suggests that African countries spend as little as 0.1 percent of GNP on research while developed countries spend twenty times as much. Government allocations for university research are largely non-existent, and foreign donors have endeavored to offset this shortfall. Many Africans are concerned with this dependency, and feel that its impact on national research culture is detrimental.

Service to the surrounding community and to society at large has been one of the founding mandates given to African universities, and the instances of laudable university service to community are many. Yet community service has not become an institutionalized activity in most universities. Moreover,

it is not apparent that universities possess any comparative advantage in assuming service responsibilities over the rapidly expanding number of African non-governmental organizations that appear better equipped for this purpose.

In spite of the considerable expansion of higher education enrollments, access to the university remains very selective. High rates of population growth and poor economic performance suggest that it will be difficult to affect this imbalance much over the coming decade. Given that most African universities are likely to remain somewhat elitist institutions, ethnic and gender representation in the student body will be important.

Adequate representation of national constituencies within student populations is desirable for the long run political stability of culturally diverse nations, particularly as they move towards more pluralistic political systems. Women's share of university enrollments has gradually grown to around 25 percent, although various countries have registered declining female participation at the tertiary level. Imbalances in gender representation are even more pronounced among university academic staff, where women account for just 12 percent of the total. Rising female representation among university students has not yet translated into greater access by women to university academic and administrative positions.

Although African universities have made significant strides towards the attainment of many of their objectives, their effectiveness became compromised during the 1980s. Years of trying to do too much with too little have taken their toll on universities' institutional health. Although the performance of African universities during their initial development phase merits respect, a more challenging second phase of reform and renewal awaits them. The current crisis in African higher education is now widespread, and requires urgent policy response from governments and universities in concert.

### *University/State Relations*

Universities and the governments that support them exist in an uneasy and sometimes adversarial relationship across much of Sub-Saharan Africa. The principal sources of this tension are governments' perception of the university community as a frequent locus of criticism and political opposition, the increased involvement of governments in university affairs, and the inability of governments to provide for the financial needs of universities on a sustainable basis.

Universities initially espoused the development aspirations of the newly independent governments and saw themselves as partners in the nation-building enterprise. Later, growing perceptions of mismanagement, limits on participation, and poor economic performance prompted staff and student disillusionment. As portions of the African university community began to question public policies and decisions, governments frequently felt that their development partnership with universities had been betrayed. They reacted by seeking to monitor and control university activities.

Government involvement in university affairs seems to be increasing. In many countries, governments dominate representation on university councils and have a major say in the appointment of senior

university administrators. Government mandated increases in university enrollments without prior planning have had deleterious consequences. Experience suggests that governments have little comparative advantage in directly managing specialized services such as higher education. They have proven far more adept at playing a supervisory role in which they insure that general policy goals are pursued and standards are maintained.

Governments provide 85 percent or more of university operating funds, and universities are financially dependent upon them as a result. In most cases, the budget allocation process is based on a negotiated or ad hoc decisionmaking process in which budgets may be adjusted by percentage increments linked to inflation or availabilities. Rarely are budgets determined through rational processes based on enrollments or strategic plans. This uncertainty has contributed to the deterioration of university-state relations. Staff complain about worsening salary conditions, and students protest crowded facilities and inadequate food. The financial tensions between governments and universities are unlikely to be eased unless positive actions are taken by both parties. These can include improved communication and mediation, greater autonomy, increased accountability, and financial diversification.

### *Progress and Potential for Financial Diversification*

As economic output across the continent declined during the 1980s, national capacities to finance the education sector dropped accordingly. Although higher education was initially sheltered from this process, by the end of the decade it too had been forced to absorb sizeable budget reductions. Financial diversification has consequently been given greater attention as a strategy for financial stabilization.

Private universities offer one way of diversifying the financial base of national higher education systems without adding significantly to government costs. At present, private universities are insignificant in Africa. As long as public higher education is provided by governments at little or no cost to the individual, and private higher education remains entirely self-supporting, private universities will continue to play a very minor role.

Various other possibilities for financial diversification also exist. The practice of cost recovery through student fees is gaining acceptance, particularly when applied to specific services such as registration, library access, laboratory use and student activities. In most cases, fees cover 10 percent or less of unit costs, suggesting that there is room for additional gains in this area.

Sizeable shares of higher education budgets are consumed by providing students with free room and board at public expense. Anglophone governments spend 12 percent of tertiary education budgets on student services, whereas francophone governments spend a staggering 55 percent. The view that the costs of student housing and meals should be recovered from the students is increasingly accepted in Africa, mainly among the anglophone countries. But where students are crowded into dormitory rooms, lack sanitary facilities, and subsist on poor quality food, the introduction of cost recovery may provoke strong reaction. Such changes need to be linked with initial investments to improve the quality of meals and accommodations so as to justify increased fees.

Possibilities were analyzed for increased income generation through contract research, consultancy services, continuing education programs, business enterprise, study abroad programs, facilities rental, and fund-raising through alumni associations. Among these, continuing education and the marketing of university facilities appear to hold the most immediate promise. Consultancy services and business activities should be approached with caution and careful cost monitoring, as it is not clear that universities possess a comparative advantage in these areas.

If financial diversification is to be successful, universities will have to re-shape their institutional cultures. They must become more efficient, goal-driven, enterprising, ready to decentralize decisionmaking and accountability, and more cost-conscious. Unless these changes occur, universities will not be able to respond to broader economic reforms, rationalize their financial relationships with the state, and ultimately survive as credible institutions.

One pre-requisite for progress towards university financial stability would appear to be a pact between the state and each university, which places government funding on a rational and predictable basis. Such an agreement should ideally include: (1) a mechanism for deciding what share of public resources can be devoted to higher education and for linking this allocation to enrollments; (2) a process for placing university funding on a multi-year basis; (3) a means of establishing fair unit costs for university training; (4) a means of sharing the costs of higher education beyond the state; and (5) incentives for efficiency and financial reform within universities, including the opportunity to retain any savings or income earned.

### *Enhanced Management*

Improved management constitutes one of the most promising short-term strategies for alleviating the pressure of universities' financial crisis. By assessing and reorganizing administrative structures, training administrative staff, encouraging initiative, and rewarding efficiency, universities can generate productivity gains that will allow them to accomplish more with existing resources. Meaningful achievement in this area, however, will also depend upon fundamental reforms in university financing and governance that create real incentives for improved management and efficiency.

A 1988 World Bank study of African education concluded that unit costs appear unnecessarily high at many African universities. The causes of these elevated costs include small institutions, staff subsidies, low staff/student ratios, large numbers of non-academic staff, extensive student subsidies, ineffective use of facilities, and inefficient financing arrangements. Since this study, unit costs have fallen sharply across the continent. This improvement is due in part to increased efficiency produced by higher staff/student ratios, which rose from an average 1:12 in 1980 to 1:14 in 1988. But it is also the result of budget cuts in essential areas such as educational inputs, research, and maintenance.

As universities seek to improve their strategic planning and management capacities, they are constrained by the lack of appropriately organized and accessible information on key aspects of university performance. Information on students, staff, finances and other management parameters must be readily available for monitoring academic performance, units costs and institutional

effectiveness. The introduction of management information systems therefore constitutes a critical current need. Some universities are well advanced in this process, but others are only just beginning. Based on experience to date, recommendations are offered for the successful implementation of management information systems.

### *Better Governance*

In numerous cases, existing governance structures constrain university responsiveness to internal constituencies, to local labor markets, and to society's needs in general. They are often dominated by the chief executive, controlled by government, and constrained by cumbersome decisionmaking processes. Mechanisms of internal communication with staff and students are weak, and external articulation with civic and business communities is frequently non-existent. Improvements in these areas hold the promise of enhancing institutional stability by reducing levels of tension and conflict, and of promoting innovation as the ideas and experience of other constituencies are brought to bear on the university enterprise.

Existing governance structures need to be strengthened, and new ones created if necessary, in order to make them more sensitive to the needs of all the university's stakeholders. University councils should be reconstituted to insure broad-based representation from the country's public and private sectors. Where the university's chief executive is appointed by the head of state, selection could be more appropriately carried out by the university council. The councils could also play equally prominent roles in the selection of other key administrators such as deputy heads of universities and deans of students. Some decentralization of responsibilities to the level of faculty deans and department heads is also worth considering.

Greater dialogue among the university's various constituent groups, at both formal and informal levels, is desirable. Improved information flows will enhance understanding of the problems faced by universities, allow earlier identification of and response to potentially conflictual situations, and build an overall sense of common endeavor. In-house newsletters, departmental bulletin boards, and regular briefings of the university community by senior officials help to keep the facts straight and defuse potential rumors. Regular meetings between university managers and government officials, and between university and student leaders, can establish useful patterns of cooperation. Staff and student associations represent important mechanisms for communication and conflict resolution. Their role is likely to increase as universities grow in size, and they should be encouraged as a potential resource that can be mobilized in support of common interests within the university community.

### *Maintaining Relevance*

The objectives which guided African universities during the initial post-independence period are now being called into question by changing circumstances. The accelerating pace of technological change and the emergence of a global economy has affected the comparative advantage of national economies

and influenced local labor markets. Economic rewards are most likely to accrue to production systems which possess flexibility and adaptability.

To this end, academic programs could be made more flexible so as to accommodate interdisciplinary study and shifting educational needs. One way to do this would be to organize academic programs on the basis of modules or academic credits. This allows the student to combine studies in key disciplines in accordance with his or her career aspirations. It also allows students to move more quickly through the higher education system by facilitating transfer among institutions or courses of study, enabling part-time study, and integrating self-paced distance education, continuing professional education and intensive short courses into the higher education system.

Continuing curriculum review and adjustment are also necessary as new disciplines and scientific technologies emerge. One promising mechanism for insuring the course content keeps pace with new knowledge and changing labor market requirements is through the use of informal advisory committees at the departmental level that link the program to key scientific and professional sectors. Periodic tracer studies and employer surveys can also contribute understanding to this process.

Graduate training programs deserve special attention. They are critical for national capacity building, but currently encounter increasing difficulty in sustaining the standards required to insure professional competence within competing regional and international economies. These conditions have prompted renewed interest in the possibilities of regional collaboration in graduate training. Lack of progress appears due to the absence of organizational mechanisms to facilitate this process. Regular structured interaction is necessary to build communication and trust on complex issues, undertake the consultations necessary to develop a collective work plan, and to hold participants accountable for their decisions. Recent experiences of regional cooperation in graduate training are reviewed, including SPAAR, ARPPIS and ANSTI.

Research is the activity that sets universities apart from other educational institutions and affirms their relevance to society's needs. The revitalization of African university research requires a multi-faceted strategy which entails: (1) freedom of expression as a condition for critical independent thinking; (2) an institutionalized capacity to promote and manage research; (3) appropriate incentives and rewards for research output; and (4) guaranteed minimum funding for research from both government and donors.

### *Preserving Quality*

Educational quality is perhaps the most important, yet most illusive, aspect of any higher education system. Available evidence suggests that the quality of tertiary education is declining in many African countries. An appropriate response should target various areas, including educational standards and incentives to uphold them, staff development and retention, educational inputs, and regular facilities maintenance.

Standards provide reference points for quality control. They are frequently communicated and assessed in terms of a professional code of conduct which imparts professional values and ethics. Academic peers apply standards through collegial review of course syllabi, research methods, and professional publications. External examiners and visiting committees insure that local standards are set against international norms. An unwillingness to compromise on quality is also an institutional value that must be regularly communicated by the university's chief executive.

Where resources are less plentiful and working conditions difficult, academic standards may fall victim to attrition. University leaders may need to make conscious efforts to reaffirm standards and reward those who comply with them under difficult conditions. This can be done by distributing scarce resources on the basis of merit. To the extent possible, performance should be linked to annual salary reviews. Where salary levels are poor and the potential for increases is limited, other incentives can be used. These could include staff development opportunities, professional conference attendance, research support, and preference in assigning new equipment such as computers. University autonomy in its financial administration and management initiative are required in order for an incentive system to work.

Marked deterioration in the terms of service, particularly salaries, is the principal cause of university staff losses. The problem of poor remuneration often stems from the fact that university salaries are pegged to civil service pay scales. Even though university staff may be much more highly trained than their civil service counterparts, the public payroll does not recognize their additional qualifications. For similar reasons, university management is generally constrained in its ability to reward superior accomplishment through the use of differential pay increases or performance bonuses.

The best solution to the staff retention problem may be a package approach based on local conditions that allows flexible application in accordance with individual situations. Such a package may include benefits (e.g., pension), amenities (e.g., housing), working conditions (e.g., office space, furniture and equipment), professional growth (e.g., graduate study, attendance at professional meetings, access to current journals and books), and research support. These benefits should be allocated on the basis of performance and merit to insure that the most productive staff are retained.

Textbooks and other educational inputs are a cost-effective way of upgrading educational quality. Yet provision for these items normally constitutes a very small item in most university budgets. There is a need to establish minimum book/student ratios and create an affordable financing mechanism for achieving these targets. This may include partial cost recovery, book rental or book loan schemes. As efforts get underway to upgrade neglected university libraries, the use of CD-ROM (Compact Disk-Read Only Memory) technology should be considered as a partial solution. The CD disks can store huge volumes of information, require little storage space, can be shipped at very low costs without the need for special handling, and do not require highly specialized equipment for their use. Emerging experience with CD-ROM in Africa indicates that the lack of in-country expertise has been a major constraint.

Maintenance of university buildings and equipment is a little recognized problem which has a direct bearing on educational quality. Where classrooms are poorly lit, bathrooms do not function, and

laboratory equipment is broken, student learning becomes more difficult. These problems are compounded where institutionalized maintenance programs—and budgets for them—do not exist. Maintenance needs should be considered from the outset in all proposals for equipment purchase and budgetary provision made for them. Existing equipment problems should be analyzed before considering specific purchases in order to identify the principal sources of breakdowns and attempt to avoid them. Local capacities for technical support should be evaluated as an important part of making equipment purchase decisions, and the training of both users and maintenance technicians should be incorporated into the cost of the purchase decision.

### *Access and Equity*

Managing the social demand for access to higher education is perhaps the single most difficult task faced by the tertiary sector in Africa today. Burgeoning population growth, rapidly rising numbers of secondary graduates, and persistent economic stagnation combine to exert intense pressures on governments to expand university access. In most cases, governments have responded by expanding university enrollments, sometimes at very rapid rates. In many countries, student populations now substantially exceed the numbers for which campuses were originally designed. The inability to plan for and manage university enrollment growth has contributed directly to the skyrocketing costs of non-academic expenditures in higher education, particularly in the francophone countries, and constituted a major cause of declining quality in university education.

What can governments do to manage the social demand for higher education? Four policies are suggested for consideration: (a) create a more differentiated higher education system which offers a wider range of options to potential students; (b) manage access through the use of selection procedures; (c) pursue financial diversification, particularly cost-recovery, to maintain financial equilibrium; and (d) insure that possible social, gender and ethnic inequities associated with the system are recognized and addressed.

A differentiated higher education system might include some or all of the following institutional types: traditional colleges and universities; community colleges, polytechnic or technical institutes, teacher training colleges, adult or continuing education programs, productive sector training programs, and distance learning programs. All of these can be either publicly or privately managed. Together they enable a higher education system to accommodate a growing and diverse student body while meeting the labor market's needs for varying levels of specialized skills.

Distance learning programs appear among the least developed components of African higher education systems. Because they are often effective in expanding access for groups not commonly represented within the university, they merit consideration. However, the obstacles to mounting an effective distance education program are sizeable. To be economically viable, a large number of students is necessary. Initial capital outlay may be quite high, particularly where materials are locally developed. Skilled staff are also necessary, as are highly motivated and mature students. South Africa's open university, UNISA, seems likely to constitute a major regional resource for distancing learning in

Southern Africa as majority rule is established. It possesses substantial experience and 120,000 students, including 15,000 from neighboring countries.

Even expanding systems will be forced to impose some selectivity on university admissions as the desire for university education exceeds the possibilities of accommodation. Efficient and equitable selection mechanisms will be necessary to allocate students effectively within a differentiated higher education system. A key component of a selection procedure is likely to be some type of competitive entrance examination. Selection examinations must be carefully developed and administered in order to insure consistency with secondary school curricula and to preserve their credibility.

Considerations of quality and representativeness interact to produce the specific selection policies in each country. Achieving the right balance is not easy. On the one hand, a nation's best minds should be given the opportunity for full development. On the other hand, the country's future leadership should be broadly representative of all of its social groups to insure that the pluralistic perspective they bring to bear on the nation's affairs both enriches and balances public decisionmaking.

Women-specific institutional initiatives appear to have produced a positive impact on women's participation in the higher education systems of several countries. These include efforts to promote public awareness of the benefits of educating women and to attract them into non-traditional science fields. Women's employment and professional advancement within the university have lagged far behind the emerging gains in women's enrollments. Causes include the conflict between professional and family responsibilities, differential terms of service between men and women, the absence of university child care facilities, and cultural restrictions on women's mobility that impede participation in graduate training, field research, conference attendance, and other professional development activities.

As higher education systems expand from mono-university to multi-institutional configurations, they are advised to insure that local student bodies are nationally representative and not drawn primarily from an ethnically homogeneous sub-region. This will enhance the enrichment of educational experience that comes from diversity, and the tolerance that is developed through exposure to alternative viewpoints. Universities should, however, avoid the use of explicit regional quotas as this could undermine quality and create precedents that might be difficult to re-consider at a later date. Instead, it is suggested that universities set clear goals for regional and gender representation among incoming students over a three to five year period, and establish a mechanism to monitor progress towards these goals. Ultimately, however, issues of gender and ethnic representation in university enrollments may best be addressed through corrective action at the secondary level.

### *The Role of Donors*

International development assistance seems likely to play a prominent role in efforts to stabilize and revitalize African universities. Because severe financial constraints at the national level have reduced government higher education funding mainly to salary support and essential operating costs, funding for new initiatives, pilot projects and special investments is most likely to come from outside sources.

International donors have contributed significantly to the development of African universities since independence. During the 1980s, however, external assistance to African universities declined, with higher education's share of overall foreign assistance to education in Africa dropping from 34 percent in 1981-83 to 25 percent in 1984-86. More importantly, the composition of external support changed during the decade, becoming more narrowly defined and results-oriented. As a result, donors often assumed an institutional capacity for project implementation that was not always there, and some university departments were competitively courted by donors without regard for their overall ability to meet their project obligations. At the same time, the universities' institutional needs for libraries, staff development, planning and management were frequently neglected.

There are indications of renewed donor interest in the institutional development of African universities as greater attention is given to capacity building goals. These efforts also reflect interest in improving donor collaboration, as evidenced by the activities of the Working Group on Higher Education constituted under the Task Force of Donors to African Education. This Working Group has produced a series of recommendations concerning donor support to African higher education which are briefly summarized. Among them is the continuing need for more effective donor coordination at the institutional level. Such efforts, however, do not negate the importance of long term undertakings to create a supportive local donor community for African universities.

### *Initiating Reform*

Efforts at higher education reform—whether they focus on management, finance, curriculum or governance—stand little chance of sustainable success unless they are grounded in broad public consensus. Consensus-building is important because it allows the political feasibility of proposed changes to be tested before actual decisions are made. Failure to invest in public education and consensus-building prior to the institution of policy changes can have high costs in terms of public reaction, student protest and damaged working relationships among key actors. The benefit of doing so is a more stable and effective reform process.

Several alternative approaches to consensus building have emerged on the African continent. The self-study is an institutional review, initiated by management, that uses a process of internal consultation to evaluate the existing mission statement, organizational structure, key policies and installed capacity for consistency and responsiveness to the external environment. The resulting institutional development proposals can then be shared with government, donor and private sector representatives in the effort to build agreement regarding the university's future role and objectives. The inter-institutional steering committee is a sub-sector review undertaken by government to appraise higher education policy and its financial and organizational implications. Representation often includes key government ministries, university leaders, and relevant professional associations, and a final report is normally presented to government for executive decision. The intermediary coordinating agency is an umbrella government organization with oversight responsibility for the higher education sector. It plays a mediating role between government and the university system in the effort to establish common ground for policy initiative. The external visiting committee is comprised of outside experts

who periodically review all aspects of a higher education system or institution at the invitation of government.

African higher education reform efforts have frequently suffered from inattention to the need for prior public education on key and often controversial issues. Newspaper articles, public proposals or reports, broadcast interviews or debate, and consultative meetings are options for informing public opinion and for laying the groundwork for eventual consensus. The issue of deteriorating educational quality can often serve as a unifying theme around which to construct the involvement of the various interested parties.

If Africa's universities are to be stabilized and revitalized, universities themselves must seize the initiative. One way to do this is through the development of an updated university mission statement. This begins with a consultative process that seeks to answer three questions: What kind of university does the country have? What kind of university does it need? What kind of university can it afford? The resulting mission statement should integrate attention to educational quality, finances, access, curriculum, distribution of students among the various disciplines, staff development, research, governance, and management. A second, less direct path lies through the promotion of higher education research. At present, relatively little analysis of Africa's higher education needs is carried out by Africans. Consequently, much of the current policy discussion in this field is framed and promoted by donor agencies. If needed reforms are to be appropriate and lasting, the talents and experience of African scholars must be brought to bear. More importantly, the process must begin immediately as the African higher education crisis is already well advanced.

An agenda for higher education reform is offered as guidance to this process. It encompasses the following issue areas: (1) a policy framework governing enrollment growth, access, financing, graduate output, governance and accreditation; (2) system differentiation to foster a variety of lower cost alternative institutions offering varying missions, functions and modes of delivery; (3) a financial pact between universities and their governments that links financing with enrollments; (4) strategies for financial diversification; (5) greater university autonomy, particularly in financial administration; (6) broadly representative governance structures that enable universities to be more responsive to the society that supports them; (7) more efficient management in order to free additional resources for university needs; and (8) the development of strategic university plans based on revised mission statements concerning the future role and contributions of universities to national development in Africa.

### *Conclusions*

A general consensus in Africa surrounds the notion that its principal higher education issues are quality, relevance, finances, efficiency, equity, and governance. What is not clear is how these issues should be addressed and where one should start. This paper seeks to clarify these questions. It offers guidance—but not prescription—to those who are committed to renewing and expanding the capacity for human resource development within Africa's institutions of higher learning. It is based on the experiences of knowledgeable Africans who are committed to this undertaking, and who are beginning

to generate innovative responses to the extraordinary difficulties they confront. It also incorporates donor agency experience as channelled through the mechanism of the Working Group on Higher Education constituted under the Task Force of Donors to African Education (DAE). In the process, it strives to inject a sense of urgency regarding the need to move from analysis to action in the sphere of African higher education. The principal messages of the following discussion seek to support this process:

- Managing the social demand for higher education is best achieved by expanding access through a differentiated higher education system, composed of public and private institutions with diverse missions, that offers students a range of choices and study regimes, and by controlling access to this system through the use of competitive entrance examinations.

- In order to increase access, maintain standards of educational quality and insure institutional stability, universities must diversify their financial bases, particularly through cost-recovery for non-academic services, the introduction of targeted fees, and a calculated expansion of income-generating activities.

- Universities must seize the initiative in order to achieve their own stabilization and revitalization; this can be done by undertaking an institutional self-study that updates the university's mission statement and can be used to build the internal and external consensus needed to undertake reforms.

- Greater autonomy from government, particularly in financial administration, is required by universities if they are to become more entrepreneurial, and if they are to provide the incentives necessary to encourage quality performance and management efficiency.

- Universities must invest in themselves if they are to remain viable centers of higher learning; this means that they must provide yearly budget allocations for educational materials, library acquisitions, research, staff development, and the maintenance of buildings and equipment.

- More professional management at all levels—through staff training, strategic hiring, and computerized management information systems—is the best short term strategy for freeing resources (through improved efficiency) to meet university needs.

- The most useful role for donors is to support the development of long term institution-building strategies. Activities consistent with this approach include the preparation of updated university mission statements, efforts to strengthen and professionalize management, institutional linkage arrangements to bolster particular departments, and research on higher education policy and performance. In settings of acute institutional deterioration, donors should consider contributions towards recurrent costs, particularly for educational inputs, library acquisitions, equipment and building maintenance, and efficiency-enhancing operating expenses.

# 1

# *A Call for Renewal*

***What Has Been Accomplished***

African universities are still very young. Yet they have accomplished much in their short span of existence. They have grown from just six in 1960 to some 97 today, with a corresponding surge in higher education enrollments[1]. In thirty years, they have developed relevant curricula and revised content to reflect African priorities, legitimized research and established specialized institutional research units, largely replaced expatriate faculty with indigenous staff, and fostered fledgling intellectual communities (*Court 1991, p. 329*). They have produced the skilled human resources required to staff and manage public and private institutions in the newly independent states. They have developed fully elaborated higher education sub-sectors that include universities and many other types of tertiary institutions, public and private. African universities have contributed new thinking regarding the role of higher education by introducing the concept of the "developmental university," an institution that participates directly in efforts to alleviate poverty and promote human welfare through applied research and community service (*Yesufu 1973*).

Legacies from the pre-independence era still shape the structure and substance of African universities in important ways. In their initial phase of development, African universities were closely linked with sister institutions in Europe, particularly France, and the United Kingdom. Some aspects of these inherited models—at the time the only prototypes—now condition the potential for additional achievement.

In Francophone Africa, first universities in Dakar and Abidjan were associated with universities in Paris and Bordeaux for accreditation and expatriate staff assistance. University development followed the French "classical" model characterized by its liberal intellectual goals, centralized administrative structure, division of disciplines, and pedagogical methods (*Adams, Bah-Lalya and Mukweso 1991, p. 354*). A key consequence has been the offering of unfettered university access to all students who successfully complete the secondary school *baccalaureate* examination. This has led to rapid tertiary enrolment growth as access to primary and secondary education expanded.

The British model exercised similar influence in Anglophone Africa. University organization and perception of its role in forming an intellectual elite was common in each case. The curriculum placed a strong emphasis on the humanities, but neglected engineering, economics and some

[1] Throughout this report, "Africa" is used as an abbreviation for Sub-Saharan Africa. The discussion largely excludes South Africa with its 21 universities and 323,000 university students.

aspects of the sciences. Another critical heritage was the notion that universities *"should be developed as detached and self-sufficient communities created at some distance from urban centers,"* together with associated needs for roads, utilities, schools, clinics and similar infrastructure (*Court 1991, p. 331*).

During this formative period for African universities, European linkages served to establish standards, ensure access to international scientific information, train national staff, initiate research programs, and provide a ready frame of reference for institutional development decisions. But this partnership introduced a high cost model of publicly funded residential instruction, strong curricular emphasis on the humanities and social sciences, and an elitist orientation. Although African universities have labored to overcome these biases, they remain impediments to the development of higher education systems and national economies. *"Thus the African university became heir to a dual setting—the traditional African environment in which it was to be rooted, and the modern Western sector from which it received its orientation"* (*Sherman 1990, p. 371*).

Thinking about the role of universities has also evolved. In Francophone Africa, the early classical approach has given way to a more utilitarian orientation in which the composition of graduate output, a problem-solving focus for research, reality-based training, greater management efficiency and maintenance of educational quality are paramount concerns (*Adams, Bah-Lalya and Mukweso 1991, p. 359 and Ransom 1988*). For Anglophone universities, governments have tended to encourage a more technocratic definition of their role, emphasizing professional and vocational training, while discouraging a critical exchange of ideas or other activities that might be deemed to have political content (*Court 1991, p. 330*).

The current economic crisis on the continent has reinforced the technocratic perspective. The Economic Commission for Africa calls upon the region's universities to ... *"evolve within their walls those types of teaching, learning and research programs that would provide the skills base for internalizing the development process, establishing linkages and complementarities among the production sectors and serve as most effective domestic catalysts for growth and socio-economic development"*... (*ECA 1989, p. 31*).

Other African observers stress the potential for universities to build upon the strengths of traditional culture to foster modernization. A heavy research and technology dependence on industrialized countries is questioned as marginally beneficial to the solution of fundamental African problems such as environmental degradation, ethnic conflict and peasant agriculture. In response, a less instrumental and more incubational role is proposed for African universities. This would put emphasis on inquiry and experimentation, openness to new ideas, systematic attention to meaningful interaction between the traditional world and the modern sector, and more effective linkages between universities, their governments, and their societies (*Sherman 1990, p. 382*).

Mazrui (1992) takes this a step further. He views the strong cultural dependency produced by the European origins of the African university—and perpetuated by its current Eurocentric models—as a major barrier to the continent's capacity for innovation and development. He argues for substantial revision of curriculum structure and course content to recognize and incorporate neglected positive elements of African values and culture. Mazrui proposes a role for African universities in which they would counter-balance the conforming pressures of cultural messages from the North by developing local cultural content, by diversifying and thus

reducing cultural dependency through importing alternative messages and models from other cultures, and by building African identity and cultural confidence so as to enable a strategy of counter-penetration of European-dominated world culture to be initiated.

There is much to suggest that African universities are nearing the end of their initial phase of development which has focused heavily on creating and expanding national systems of higher education and employing them to meet critical human resource needs in the public sector following independence. Tackling the problems of the first phase has produced a series of second generational challenges, among them issues of financing, relevance, efficiency, quality and university/state relations. These challenges set the parameters for the next developmental phase in African higher education. They are already prompting new thinking regarding the role and purpose of African universities. The principal accomplishment of African governments and their higher education institutions in the 1990s may well be to re-define the mission of the region's universities. How this is done is a question best answered by the institutions and their leadership within each country.

### *Why Changes Are Appropriate*

Africa's universities currently stand in crisis at a pivotal point in their development. The mandates given to them at independence—and ensuing higher education policies—now require reassessment as a result of changes in the world, in Africa, and in the universities themselves.

The emergence of global markets has created an increasingly competitive world economic system. African economies, often at disadvantage due to their more limited pool of skilled human resources, have not fared well in this transition. Economic growth has stagnated and so limited the availability of state and family resources for investment in education. At the same time, an associated increase in worldwide labor mobility—coupled with political instability in some countries—has enticed many of Africa's best professionals from the continent. These growing losses have frequently been offset by technical assistance programs that may not always make equal contributions to local capacity-building. Technological change has also been a contributing factor. Innovative technologies have undercut demand for some of Africa's traditional exports such as copper and cotton, and made it difficult to develop competitive substitutes. Advances in information technology have accelerated knowledge generation and globalized communication, thereby threatening the relevance of education systems that cannot keep pace.

The end of the cold war will have consequences for Africa that are not yet fully apparent. But already it is clear that the old geo-political strategic criteria for development assistance are fading. New criteria—based on merit, effectiveness, human rights, and accountability—are emerging (*King 1991*). In the long run, development assistance may be gradually transferred from bi-lateral administration to multi-lateral responsibilities as East-West competition for political support within the developing world becomes less important. If these conditions prevail, access to development assistance may become more competitive and may favor those countries with demonstrated human resource capacities to plan, manage and account for the use of such resources.

Africa itself has changed since independence. High population growth rates have sharply increased the number of human beings on the continent. Subsequent demographic pressure on the land has reduced its employment potential,

fostered environmental problems of growing concern, and increased migration to urban areas. This urbanization is spawning a new generation of Africans less tied to land, clan and ethnic identities. Reduced access to land has enhanced the value of education as a viable alternative to land ownership in household strategies for self-improvement. One result has been a steady increase in the social demand for higher education, with the number of university students jumping 61 percent over the past decade. Another has been the progressive replacement of single national universities with multi-institutional systems of higher education which increasingly reach out beyond the capital city to address the needs of regional populations.

On an ideological plane, the once hopeful vision of African socialism has been largely discredited. The intellectual vacuum left is being filled by a dual doctrine of economic liberalism and political pluralism. These new orientations have yet to be tested, assessed and adapted in an African context. However, their impact on local labor markets, skill requirements, and educational values is already being felt.

Universities have also changed, sometimes unwillingly and not always with forethought. They have largely—and successfully—completed their initial post-colonial task of producing the professionals needed to staff the institutions of government. Future university graduates will need to be prepared in the broader range of complex skills necessary to pursue the continent's quest for economic advancement. At the same time, greater access to primary and secondary education following independence has led to markedly improved national literacy rates, but has contributed to the irrepressible social demand for higher education. With enrolment expansion have come associated management, infrastructural and quality control problems as campus populations multiply faster than the capacity to plan and provide for them. Political pressures for continued growth are intense, often undercutting efforts to inject economic and policy rationality into the deliberations on higher education.

While African university systems have grown and diversified, the conceptual model on which they are based (full time residential instruction) has remained largely unchanged. As noted in a recent study of graduate training in economics for Africans, this model *"was borrowed with little adaptation from the former colonial power. It was compatible with the principal features of primary and secondary education established during the colonial period. In anglophone countries, universities were designed to receive small numbers of carefully selected students who had started to specialize in the final years of secondary school. ...A similar trend has occurred in francophone countries"* (*Fine 1990, p. 13-14*). It is striking that the basic university models in Africa—and particularly their structures of financing—have not been subjected to more critical review in light of recent economic and educational changes. This is particularly notable in view of the fact that significant university reform has been underway for some time in England, France and several other European countries which often serve as educational reference points for African nations (*Ball 1990; Guin 1990; Goedegebuure and Meek 1991*).

Other changes further underscore the desirability of considering anew the form and content of African higher education. A decade of economic stagnation has squeezed the public purse and compelled nearly impossible budget choices among competing social needs. In this context, education's often sizeable share of government budgets and higher education's seemingly disproportionate claim on education expenditures

have both become a source of growing concern among national policymakers and development assistance agencies alike.

Economic sluggishness and the widely recognized deterioration in Africa's terms of trade limit the foreign exchange available for development investments. Universities compete poorly in this arena, and often go begging for the hard currency needed to buy library books and journals, laboratory supplies, computer equipment, and the airfares to send their scholars to international scientific meetings. One result is that university capacity to absorb funding and implement projects effectively has waned. Another is a growing marginalization of African universities from the intellectual and informational mainstreams that shape development possibilities in the rest of the world.

The structural adjustment programs currently being implemented by most African countries appear likely, over time, to influence labor market demands for university graduates. Liberal arts preparation for public service is expected to give way to the science, engineering and business management training needed to support private sector development and respond to growing opportunities for self-employment. University curricula will have to shift accordingly. Changes in the larger environment—urbanization, environmental degradation, rapid population growth, food output decline, electronic technology advances—place demands on the university for problem analysis and policy guidance at a time when university research activity has waned because of increased teaching loads and a shortage of funds, equipment and supporting infrastructure.

As all these factors combine to erode the quality of university teaching and research, governments begin to question the value of their investments in higher education. Where these doubts are reinforced by de-stabilizing student protests, often prompted by poor university conditions and narrowing employment prospects, governments have shown a propensity to intervene in university affairs. The result is an erosion of trust on both sides which highlights the need for attention to relations between university and the state.

These changes within African nations since independence suggest that the time may now be ripe for re-thinking, reforming and renewing African higher education to meet Africa's capacity-building needs in the 21st century. There is every reason to take on this task. First, universities are the principal source of the skilled leadership and technical knowledge needed to guide national development. The next generation of Africa's political, civic, and business leaders—and the professional and technical cadres that support them—will be shaped and honed by their university experiences. Their future effectiveness will depend in large measure upon the quality of the preparation they receive, as well as the norms, values and standards of professional behavior imparted in the process. Second, universities set the standard for a country's entire educational system. Quality at the top will, over time, spur quality gains throughout the system. Third, university research capacity (and potential) constitutes an important reference resource in the analysis of key issues as input to policy decision-making. Fourth, universities contribute substantially to national cultural development and the affirmation of a national cultural identity.

Against this backdrop, a cluster of critical concerns now frames discussion concerning the future form and substance of higher education in Africa. Principal among them are apparent declines in educational quality, questions of curriculum relevance and appropriate distribution of students among the principal disciplines, the

high and often unsustainable costs of university training, a need for improved university management, an ineffective working relationship between government and university, and equity issues surrounding access to university. To address these concerns, African nations must first answer two questions. What kind of university do we need? What kind of university can we afford?

The answers will differ from country to country in accordance with national circumstances, culture and priorities. With varying emphases, a general consensus in Africa holds that its principal higher education issues are quality, relevance, finances, efficiency, equity, and governance. What is not clear is how these issues should be addressed and where one should start. This paper seeks to provide guidance to those committed to renewing and expanding the capacity for human resource development within Africa's institutions of higher learning. It offers alternatives, tested and untested, for policy-makers and institutional managers to consider as they tackle the complex challenges of higher education reform. It is based on the experiences of Africans who are committed to this undertaking, and who are beginning to generate innovative responses to the extraordinary difficulties they confront. It incorporates donor agency experience as channelled through the mechanism of the Working Group on Higher Education constituted under the Task Force of Donors to African Education. And, the paper identifies relevant practice from other countries as reference points for policy and practice.

The discussion begins by outlining the scope of the current challenge to African higher education. It then offers an assessment of universities' effectiveness in meeting their self-defined goals. It follows with further analysis of the seven areas in which university performance will have to improve if university revitalization is to be instigated. These seven areas are: university/state relations, financial diversification, management, governance, relevance, quality preservation, and managing the social demand for higher education. Closing sections comment on the role of donors in this reform process, and suggest ways in which higher education renewal in Africa might be initiated. Much of the data used in the following analyses are drawn from the UNESCO *Statistical Yearbook*. It has been used on the assumption that the resulting analytical trends are likely to be reasonable reflections of reality, even when the individual data points representing particular universities are not always consistent with other available information.

# 2

## *The Scope of the Problem*

To varying degrees, the universities of Sub-Saharan Africa face four common problems. First, **enrollments are often increasing faster** than the capacity to plan for and accommodate this growth. The result is over-crowding, a shortage of teaching materials and laboratories, deterioration of physical facilities, strain on administrative systems, and reduced performance by staff and students.

Second, current **patterns of higher education expenditure are unsustainable** in many cases. The model of publicly supported residential universities, when combined with increasing primary and secondary enrollments and rising graduate unemployment is inequitable and financially inefficient. Most African nations cannot afford to expand enrollments under this high-cost model in the face of competing social and developmental needs. The present strategies of university financing are often untenable and the need for change is pressing.

Third, rising enrollments and reduced funding have produced general agreement that **educational quality is declining.** Teaching staff are intellectually isolated as the result of curtailed research activities, fewer library acquisitions, and diminished professional development opportunities. They have less time for teaching preparation and research as eroding salaries frequently force them to seek supplemental employment outside the university. Staff retention is an acute problem. Students confront a shortage of textbooks—or the means to acquire them—which obliges them to depend heavily on lecture notes for study. Insufficient laboratory space and equipment often reduce science and engineering education to theoretical presentations devoid of problem-solving content. The trend of more students, more part-time teachers and fewer teaching inputs makes the maintenance of educational standards a nearly impossible task.

Fourth, **the relevance of universities to national needs is a growing concern** for government and citizens. Universities have largely achieved their initial post-independence task of producing skilled professionals to indigenize the civil service. But focus on this objective has diverted attention from developing capacities in the science, engineering and business-related disciplines needed to support a diversified economy and address the full range of technical problems associated with development. University capacity for applied research has generally not evolved as rapidly as anticipated, thus limiting university contributions to national development efforts and contributing to governmental dependence on foreign technical assistance. These circumstances, when combined with rising graduate unemployment in some countries and disguised unem-

ployment in others, point to an emerging mismatch between university outputs and society's current needs.

### *Enrollments*

The universities of Sub-Saharan Africa present striking and divergent trends in their enrollments. In spite of severe economic constraints in many countries, university enrollments expanded steadily during the 1980s. This expansion, however, did not occur at the same pace in all countries (see Table 1). Overall, the university student population in the region increased by 61 percent between 1980 and 1990, rising from 337,000 to an estimated 542,700. In the process, higher education systems began to differentiate. While few countries in 1980 boasted more than a single national university (Nigeria being a notable exception), by 1990 at least fifteen countries had established two or more universities. In many cases the new universities were given specific mandates to focus on agriculture, education, or science and technology. In some cases, national higher education commissions or councils were created to plan and manage these growing sectors.

In spite of this impressive growth, access to higher education remains more limited in Africa than in other regions of the world (see Table 3). This is one of the concerns that drives African efforts to expand the comparatively small human resource base of skilled professionals. Yet the rapid rise in enrollments has fostered severe problems which contribute to the current need for higher education reform. Among them are unbalanced financing among levels within the education sector, excessive numbers of students in lower cost social science and humanities disciplines, declining educational quality, and growing graduate unemployment. Ironically, efforts to expand tertiary enrollments under conditions of severe budget constraint may actually increase—not reduce—the shortage of specialized skills as deteriorating educational quality leaves graduates poorly prepared for professional employment (*Colclough 1989*). Unless enrolment expansion is managed in ways that preserve or enhance educational quality, it may serve short-term political needs at the expense of longer term national interests and development possibilities.

At least five types of higher education system can be discerned in Sub-Saharan Africa. They include: (1) small systems characterized by stable or declining growth rates, such as Malawi, Tanzania, Sierra Leone; (2) small but slowly expanding systems, such as Burundi, Togo, Uganda; (3) small but rapidly expanding systems which doubled or tripled enrollments over the past decade, such as Benin, Burkina Faso, Mozambique, Niger; (4) medium sized systems with some institutional differentiation, such as Congo, Ghana, Senegal, Zimbabwe; and (5) large multi-institutional systems, such as Nigeria, Madagascar, Kenya, Cameroon, Zaire. Each system presents different challenges in terms of cost-effectiveness, efficiency, access, division of responsibilities, and system management. Together they illustrate the rich diversity which characterizes African systems of higher learning.

### *Higher Education Finances*

During the 1980s, the capacity of African governments to finance public services fell sharply. By 1990 income per person in Africa, as measured in constant 1980 US dollars, was 20 percent lower than it was in 1980. Government expenditures on education suffered accordingly. Although the average share of governmental budgets allocated to the education sector increased slightly from 16.3 to 16.6 percent between 1970 and 1980, it declined to 15.2

## *Table 1. University Enrollments*

| *Country* | *1980* | *Current*[a] | *Percent Change* | *No. of Public Universities* |
|---|---|---|---|---|
| *Small No-Growth Systems* | | | | |
| Chad | 2,000 | 2,048 | + 2 | 1 |
| Lesotho | 2,200 | 1,259 | - 43 | 1 |
| Liberia | 4,900 | 4,855 | - 1 | 2 |
| Malawi | 2,200 | 2,284 | + 4 | 1 |
| Mali | 5,100 | 4,715 | - 8 | 1 |
| Swaziland | 1.900 | 1,357 | - 29 | 1 |
| Tanzania | 5,000 | 3,406 | - 32 | 2 |
| Uganda | 5,900 | 5,533 | - 6 | 2 |
| Zambia | 7,500 | 4,857 | - 35 | 2 |
| Average | 4,078 | 3,368 | - 17 | |
| *Small But Expanding Systems* | | | | |
| Burundi | 1,900 | 2,762 | + 45 | 1 |
| Central African Republic | 1,700 | 2,600 | + 53 | 1 |
| Gabon | 2,000 | 2,741 | + 37 | 2 |
| Rwanda | 1,200 | 1,650 | + 38 | 1 |
| Sierra Leone | 1,800 | 2,348 | + 30 | 1 |
| Togo | 4,800 | 7,348 | + 53 | 1 |
| Average | 2,233 | 3,241 | + 45 | |
| *Small Rapid Growth Systems* | | | | |
| Angola | 2,200 | 6,048 | +175 | 1 |
| Benin | 4,000 | 8,883 | +122 | 1 |
| Botswana | 900 | 2,255 | +150 | 1 |
| Burkina Faso | 1,600 | 4,760 | +198 | 1 |
| Mozambique | 1,000 | 4,333 | +333 | 1 |
| Niger | 1,400 | 3,317 | +137 | 1 |
| Average | 1,850 | 4,673 | +153 | |
| *Medium Size Systems* | | | | |
| Congo | 7,300 | 11,310 | + 55 | 1 |
| Ghana | 15,500 | 10,500 | - 32 | 3 |
| Senegal | 13,600 | 19,132 | + 41 | 2 |
| Somalia | 2,900 | 15,672 | +440 | 1 |
| Zaire | 28,500 | 16,239 | - 43 | 4 |
| Zimbabwe | 8,300 | 11,000 | + 33 | 2 |
| Average | 12,683 | 13,461 | + 6 | |
| *Large Multi-Institutional Systems* | | | | |
| Cameroon | 11,500 | 34,000 | +196 | 5 |
| Côte D'Ivoire | 19,600 | 22,000 | + 12 | 1 |
| Ethiopia | 14,400 | 22,701 | + 58 | 3 |
| Kenya | 13,000 | 40,000 | +208 | 6 |
| Madagascar | 22,600 | 37,181 | + 65 | 6 |
| Nigeria | 69,700 | 160,767 | +131 | 31 |
| Sudan | 28,700 | 33,934 | + 18 | 6 |
| Average | 25,642 | 50,083 | + 97 | Total: 95 |

a. Most recently available, 1987-1990.

*Source:* UNESCO Statistical Yearbook, 1991; World Bank data.

percent during the following decade. At present, Somalia (2.8 percent) and Zaire (6.4 percent) provide the least support to education. Côte D'Ivoire, Benin, Kenya, Senegal and Ghana provide the most with education allocations comprising 25 to 41 percent of the total budget.

In per capita expenditure terms, this decline was even more precipitous. Public spending on education in Africa, measured in constant US dollars per person, plunged by 55 percent over the 1980-86 period, even as it increased in all other regions of the world except Latin America (*Woodhall 1991, p. 14*).

Governments' commitment to education is reflected in education expenditures as a proportion of GNP. Here a similar pattern is apparent. On average, this share increased from 3.4 percent in 1970 to 4.3 percent in 1980, but slid back to 4.0 by 1988. Here it should be remembered that GNP was also falling at the same time, thus accentuating this negative trend.

That government allocations to education have remained as high as they have in the face of sharply constricted possibilities is witness to the high priority that governments attach to investment in education. The countries of Sub-Saharan Africa have, over the past two decades, consistently favored education, often at the expense of military expenditures. As the continent's economic crisis deepened, military expenditures as a share of GNP fell relative to the share of social expenditures. Indeed, Sub-Saharan Africa has routinely spent a smaller share of GNP on the military (3.7 percent) than have the developing countries of Asia, the Middle East, or North Africa (*Hewitt 1991*).

This share, which is also below the world average for military support, is a positive example worth recognizing. The countries of Côte D'Ivoire, Ghana, Niger and Sierra Leone are noteworthy for maintaining military expenditures at 1.5 percent or less of GNP. The recent easing of worldwide geo-political tensions suggests that African nations might well achieve additional gains through reducing military expenses as a means of increasing educational investments.

In its 1988 policy paper, *Education in Sub-Saharan Africa*, the World Bank expressed concern with higher education's rising share of education budgets and prescribed that "the share of stagnant real public education expenditures devoted to tertiary education cannot expand further and in some cases may have to contract." To achieve this goal, it proposed savings through *"improvements in efficiency, increases in private contributions, and constraints on the growth of output."* Since this report was released, progress in these latter areas has been spotty. As a result, the predicted budget cuts have materialized.

Higher education's share of national education budgets initially increased as real education spending fell in the early 1980s. It grew from an average 15.5 percent during 1970-74 to 18.3 percent in 1975-79 and 19.1 percent in 1980-84. It then gave ground, with its average share for 1985-88 declining to 17.6 percent. As a result, higher education expenditures as a portion of education budgets were lower at the end of the 1980s than they had been a decade earlier.

At the country level yearly budget provisions sometimes fluctuated considerably. This was particularly true for capital budgets (*AAU 1991, p. 14*). From an institutional planning standpoint, this suggests that higher education is becoming a rather uncertain sector.

Rising university enrollments and declining budget allocations for higher education have

combined to force down unit costs in many African universities. Using constant 1980 US dollars, the average recurrent cost per university student has dropped from US$4,381 in 1980 to US$1,233 in 1988. These figures, however, must be viewed with caution. While the trend in unit costs was clearly downward, the magnitude of the change that occurred is difficult to determine because of the distorting effects of exchange rate fluctuations.

An alternative approach is to assess unit costs for higher education as a multiple of GNP per capita. Here a similar trend emerges, even though GNP per capita was also declining during this period. While this multiple was 14.3 in 1975, it had fallen to 9.7 by 1980 and stood at just 4.1 in 1988.[2]

This downward trend could suggest that some gains in efficiency may have occurred. In most cases, however, lower unit costs were probably the result of having less budget for more students rather than through any significant achievements in management efficiency, cost-sharing or funding diversification. The potential for freeing current resources for use in new undertakings through gains in management efficiency remains largely untapped. University efforts in this latter area are quite recent and possible achievements can only be assessed when information on the post-1988 period becomes available.

Evidence suggests that these unit cost reductions were achieved largely through cut-backs in research, staff development, library acquisitions and maintenance. Such strategies have favored maintaining the status quo over efficiency-seeking management reform. Their implications for the quality of university teaching and research are not encouraging.

A narrowing gap between total and recurrent educational expenditures implies a decreasing capacity to provide non-salary academic inputs throughout the sector. Available data do not permit discrimination of higher education trends with regard to non-salary academic inputs. However, a 1984-85 study of 18 universities showed that they allocated an average 8.5 percent of recurrent budget to research, books and library acquisitions (*ESAURP 1987, p. 54*). Five years later, a survey of nine universities by the Association of African Universities estimated that they spent just 3 percent of their budget on these items (*AAU 1991, p. 33*).

### *Educational Quality*

There is now considerable agreement that the quality of university education is deteriorating across Sub-Saharan Africa. The Association of African Universities - AAU (*1991, p. 1*) speaks for its 95 member institutions in saying: *"The effects of the economic crisis were severely felt in the educational systems of African countries. Specifically, government grants to universities in Africa came under strong pressure as the levels of funding could not match in real terms the requirements of critical inputs—equipment, books and journals, and maintenance of existing facilities—to sustain acceptable standards of instruction, research and service."*

Zambian educator Trevor Coombe (*1991, p. 2*) describes the same situation in more graphic terms in his 1990 assessment of African higher education for the Ford and Rockefeller Foundations: *"One of the abiding impressions of this consultation is the sense of loss, amounting almost to grief, of some of the most senior professors in the older African universities as they compare the present state of their universi-*

[2] I am indebted to Mousaa Kourouma of the World Bank (PHREE) for sharing these calculations with me.

*ties with the vigor, optimism and pride which the same institutions displayed twenty or thirty years ago. It is not just the universal regret of age at the passing of youth, nor the sad awareness that a generation of unique academic pioneers has almost run its course. It is also the grim knowledge that the nature of the university experience today is profoundly different for many teachers and students, so different and so inferior that some wonder whether it can rightly be called a university experience at all."*

Summarizing three assessments of African graduate training capacities in economics by S. Ibi Ajayi, Jacques Pegatienan and Mohamed Mukras, Jeffrey Fine (*1990, p. 5*) describes a situation that could easily apply to other university disciplines as well: *"Advanced training in economics appears, with some notable exceptions, to have collapsed in Sub-Saharan Africa. ...The reports describe the many tangible symptoms of this collapse: an acute shortage of trained staff; recourse to second and third occupations to supplement below subsistence incomes; an absence of books, journals and office supplies; deteriorating and inadequate physical facilities; and frequent cuts in electricity, water and communications."*

These constraints, often exacerbated by the pressures of rising enrollments, combine to erode institutional performance as recorded by Kilemi Mwiria (*1991, p. 1*) in his recent assessment of higher education quality in East Africa: ... *"African universities have experienced serious decline in the last two decades. The symptoms of this decline include among others poor performance in university examinations by students, reduced rigor in the recruitment and promotion criteria of staff, reduced levels of research and publications output, and complaints by employers regarding the inability of university graduates to perform."*

In its 1988 policy paper, the World Bank notes that firm evidence is unavailable concerning the quality of graduates from African universities. However, it observes that the scores of African students on the U.S. Graduate Record Examination are uniformly lower than those of Latin American, Asian or Middle Eastern students. The Bank (*1988, p. 74*) goes on to conclude that *"...the scarcity of non-salary recurrent inputs, not the number or level of training of academic staff, is today the governing constraint on quality in African higher education in nearly every country."*

A look at the number of books per student in African universities illustrates this point (see Table 2). The average number of books per student declined during the 1980s in 22 of the 31 universities for which this information was available. In 14 of these universities, this number was less than 25 books per student. In this context, the fact that Addis Ababa University, the University of Lagos, and the University of Swaziland roughly doubled their books per student over the past decade is an impressive achievement. By way of comparison, American colleges and university libraries average 78 books per student. Although the number of books per student is not a strong indicator of educational quality, it does give some evidence of an institution's capacity to provide the basic resources for learning.

What this table does not show is the age distribution of the library collections. In most cases, severe shortages of foreign exchange have prevented university libraries from keeping their collections current. In its recent appraisal of university cost-effectiveness, the AAU (*1991, p. 31*) reports that within the nine universities studied, libraries received only an average 3 percent of university recurrent budgets during the 1980s. Sizeable portions of these modest

allocations underwrite the salaries of library staff rather than book and journal acquisitions. As a comparison, this percentage is only half of the 6 percent budget share normally received by American university libraries. Obviously, much can be accomplished through the intelligent use of "outdated" books and a sensitive assessment should look at more than the number and age of the holdings. For example, an appraisal of actual use patterns would be needed to determine the extent to which libraries—in spite of their limitations—serve as true resources for learning.

The declining quality of university library collections, although severe in many settings, is not universal. In some institutions and in some faculties, pockets of excellence remain as testimony, against all odds, to the creativity and commitment of university librarians and the administrations that support them.

*Table 2. Books per Student in Selected African Universities*

| *Country* | *1979* | *1988* |
|---|---|---|
| Benin | 11 | 5 |
| Botswana | 58 | 51 |
| Burkina Faso | 30 | 12 |
| Yaounde, Cameroon | 9 | 6 |
| Chad | 16 | 4 |
| Côte D'Ivoire | 5 | 8 |
| Ethiopia: Addis Ababa | 21 | 46 |
| Asmara | 53 | 42 |
| Gabon | 24 | 11 |
| Ghana: Legon | 76 | 93 |
| Cape Coast | 89 | 101 |
| Kumasi | 32 | 38 |
| Kenyatta/Kenya | 29 | 27 |
| Lesotho | 119 | 124 |
| Malawi | 123 | 57 |
| Niger | 16 | 22 |
| Nigeria: Ahmadu Bello | 85 | 54 |
| Benin | 19 | 12 |
| Calabar | 38 | 17 |
| Ibadan | 48 | 31 |
| Ife | 19 | 11 |
| Ilorin | 16 | 8 |
| Lagos | 14 | 21 |
| Maiduguri | 19 | 15 |
| Port Harcourt | 37 | 8 |
| Rwanda | 147 | 38 |
| Cheikh A. Diop/Senegal | 21 | 20 |
| Fourah Bay/Sierra Leone | 90 | 64 |
| Swaziland | 36 | 61 |
| Dar es Salaam | 84 | 65 |
| Uganda | 129 | 84 |
| Average | 49 | 7 |

*Source:* Association of African Universities - 1980, 1988.

### *Relevance*

At a 1962 joint UNESCO/Economic Commission for Africa conference on the future role of higher education held in Tananarive, Madagascar, African universities promoted themselves as key instruments for national development. Some thirty years later, governments increasingly question the relevance of universities to current national needs.

The relevance of current university curricula is under growing scrutiny. With the civil service in most African nations now largely indigenized, the university priority of training public administrators has been successfully met. An emerging problem of graduate unemployment and a growing propensity for students to postpone graduation by remaining in the university suggest that—in addition to difficult economic conditions and the low private costs of university education—university education may be out of tune with today's job markets.

At the same time, universities have generally fallen short in their promise to deliver developmentally relevant research to governments. The U.N. Economic Commission for Africa (*Rasheed and Grey-Johnson 1987, p. 28*) confirms that *"If African governments have, in the past, not shown much interest in funding research, it may be because they have not been convinced of its functionality in development."* Mary Antoinette Brown Sherman (*1990, p. 375-376*), former president of the University of Liberia, notes that even though the bulk of African research capacity resides in its universities, African governments have become dependent on "northern" institutions for applied research and policy direction. The Zambian Minister of Higher Education, Science and Technology, Lomeck Goma, refers to the universities' declining research output as a *"retreat from the knowledge frontier."* Speaking to the 7th General Conference of the Association of African Universities in 1989, he suggests that this poor performance is due in part to a shoddy and irrelevant product, as well as to the financial squeeze and rising enrollments (*Goma 1989*).

Questions regarding the relevance of African higher education should be taken seriously. Such questions put university legitimacy at risk, and undermine public confidence in the benefits associated with the university experience. When governments, donors, students and their families wonder whether African universities provide value for money, universities must address the source of this dissatisfaction, or face the possibility of continuing financial starvation.

What constitutes relevance within a particular university system is best determined by those concerned in each national context. But this question must be regularly raised and responded to if substantial national investments in higher education are to generate their expected dividends in knowledge generation and skilled human resources. At a minimum, relevance must include educational choices germane to the national economy and consistent with the prevailing labor market, some capacity for critical and innovative thinking on issues of national importance, the transmission of essential professional and cultural values, institutional process and behavior that equip graduates for leadership in society, and representation of the country's regional, gender and ethnic groupings in the composition of its staff and students, and in the content of its curriculum.

# 3

# *Effectiveness*

How well have African universities done in achieving their stated goals? For African universities, an overriding objective since independence has been to transform themselves into legitimate national institutions of higher learning. In addition, three other goals were explicitly defined for the universities. The 1962 UNESCO/UNECA conference, held on the eve of African independence, addressed the role of higher education in Africa over the following two decades; it proposed an idealistic and ambitious mission. Universities were viewed as key instruments for national development. They were expected to produce the skilled human resources necessary to manage newly independent countries, to generate developmentally relevant research, and to provide community service. Universities were asked to contribute to African unity, and to serve as cultural centers for their nations (*UNESCO 1963, p. 12*). The implicit goal for each country was to constitute a diverse and representative student body that reflected the regional, cultural and gender composition of the nation. These goals were subsequently refined and re-stated in the 1972 AAU conference on "Creating the African University" (*Yesufu 1973*).

### *National Institution Building*

African universities have made remarkable progress in their efforts to become authentic national institutions of higher learning. Numbering 34 in 1967, universities in Sub-Saharan Africa increased nearly three-fold to 97 in 1990. In the process, some 15 countries now boast more than one university. As university systems have grown, they have also differentiated. Often teaching responsibilities have been explicitly allocated, with newer universities charged with training in science and technology, education or agriculture. At the same time, some private universities have begun to appear, most notably in Kenya and Zaire. Within larger higher education systems such as Nigeria and Kenya, the need for system management and coordination has prompted the establishment of sector oversight bodies, such as the National Universities Commission in Nigeria and the Commission for Higher Education in Kenya. Nigeria, with over 30 universities, now has half a dozen state universities and the University of Ibadan which concentrates on post-graduate programs.

This system growth reflects the rapid expansion of university enrollments over the last two decades. Since 1970 student numbers have jumped more than sixfold from 79,628 to roughly 542,700 in 1990. At the same time, the numbers of academic staff grew from 47,000 to 137,000. More importantly, the numbers of expatriate faculty have steadily decreased even as the system has expanded. For 18 universities for which comparative data are available, for-

eigners comprised an average 36 percent of their teaching staff in 1978-79, but just 16 percent in 1986-87 (*AAU 1980, 1988*). Universities generally managed to upgrade staff qualifications in the midst of this staff substitution process. These gains in creating qualified national teaching cadres represent substantial investments of time and resources. They may also constitute the most significant single achievement by African universities.

Concurrently, substantial efforts have been made to revise curricula and to establish post-graduate programs designed to accelerate staff development for both universities and public agencies. Tanzania may have undertaken the most extensive reform in this regard (*Omari 1991*), but other countries have pursued similar goals (*Court 1991, p. 332*). Overall, it is clear that the first objective of transforming colonial era universities into viable national institutions has been achieved.

### *Training for National Needs*

A predominant objective of African universities since independence has been to train skilled leaders, managers, entrepreneurs, scientists and professionals in numbers sufficient to promote and guide national development. Assessment of effectiveness in meeting this goal will focus on overall output, the appropriateness of the output mix and type of training provided, and the success rate in retaining skilled professionals within their countries of origin.

Output: In line with their rising enrollments, African universities have increased their numbers of graduates over the past two decades. In 1970, African universities produced only 17,000 graduates; by 1987 they generated over 83,000. However, although output of graduates grew at an annual pace of 15.4 percent in the 1970s, this rate slowed significantly to 6.7 percent in the 1980s. Since enrolment growth was 9.6 percent annually during 1980-89, universities clearly became less efficient as producers of graduates. In a recent study of ten West African universities, Nwa and Houenou (*1990, p. 64*) assessed graduate output of first degrees (undergraduates) as well as advanced degrees. They concluded that undergraduate production appeared reasonable although post-graduate output was very low, possibly because the universities' primary mission to date has been undergraduate instruction. In seeking to increase output, African universities have often been forced to choose between quantity and quality as financial limitations during the 1980s linked enrollment expansion to the risk of declining quality.

Two general approaches can be discerned across the continent. The first, typified by Nigeria, Kenya and Cameroon, gives priority to increasing access to university. The implicit rationale is supply-driven: increased numbers of university graduates will benefit the country in the long run by upgrading the knowledge base of the work force. The second approach, illustrated by Malawi and Tanzania, has been to limit access in the effort to ensure quality control. Here the operating assumption is that, in the short run at least, guaranteed levels of competence in a few key areas of public and private endeavor is a more critical need. Little firm evidence is available to help governments to choose between these approaches. However, the recent African Capacity Building Initiative by the World Bank, the African Development Bank and the United Nations Development Program suggests that without broader economic improvement, increasing access to higher education may only be accomplished at the expense of educational standards (*World Bank 1991*).

Many universities are characterized by high rates of drop-out and repetition. These phenomena

need to be better understood because they constrain graduate output and make higher education less cost-effective. This is particularly important in those countries, notably in the Lusophone region, where skilled human resources are in extremely short supply. Mozambique, for example, must rely on just 3,000 university graduates to manage public and private development for its 15 million citizens. As brain drain and the spread of AIDS threaten to erode the human resource base in various countries (*Becker 1990*), cash-short governments are likely to become more concerned with improving the productivity of higher education institutions in terms of their graduate output.

From a global perspective, the number of university students per 100,000 persons in Sub-Saharan Africa is low in comparison to Asia, Latin America and the Middle East (see Table 3). The gross enrolment ratio for higher education is just 2.4 for Sub-Saharan Africa compared to 18.7 for Latin America, 12.6 for the Arab states, and 8.2 for Asia (*UNESCO 1991*). These data could be interpreted as suggesting that over time African nations should strive to steadily increase their output of university graduates. This interpretation, however, ignores significant differences in the composition of national labor markets and their absorptive capacity. Efforts to expand enrollments will be pursued at the peril of increased graduate unemployment unless they respond to genuine labor market demand.

Enrollment growth should not occur at the expense of educational quality and relevance, and should not be financed entirely by government. These cautions should not detract from Africa's hard-earned achievements in expanding access to tertiary education over the past decade at a rate far faster than elsewhere in the world.

In spite of the proportionally small numbers of university graduates, labor force projections do not augur well for the capacity of African countries to absorb additional graduates. During the 1990s, the region's labor force is expected to expand by 3.3 percent annually. Employment in the modern, wage-earning sector, however, is projected to grow at only 2.0 percent each year while the informal sector becomes the principal source of new jobs. As a result, unemployment will triple to 31 percent in urban areas over the coming decade. Increasingly, it will affect youth and those with higher educational levels. By the mid-1980s, unemployment among university graduates was already over 13 percent in Côte d'Ivoire, Ghana and Mauritius. During the present decade, graduate unemployment is expected to surge as economies remain stagnant and public employment opportunities continue to decline. Guaranteed employment for graduates has already been discontinued in Benin, the Central African Republic, Congo, Guinea, Mali, Rwanda, Somalia and the Sudan (*Vandemoortele 1991*).

*Table 3. Higher Education Students per 100,000 Persons*

| *Region* | *1980* | *1989* | *% Change* |
|---|---|---|---|
| Sub-Saharan Africa | 104 | 162 | 56 |
| Asia | 535 | 645 | 23 |
| Latin America | 1,352 | 1,659 | 21 |
| Arab States | 901 | 1,093 | 21 |

*Source:* UNESCO Statistical Yearbook, 1991.

Output Mix: The 1962 Tananarive conference on the role of higher education in Africa singled out the creation of national capacities in science and technology for particular attention. The African nations represented at the Tananarive Conference concluded that their fledgling universities should seek to achieve 60/40 enrolment ratios in favor of science and technology. This was broadly understood to include agriculture, engineering, medicine, sciences and health-related disciplines. The 60/40 distribution was expected to produce the necessary numbers of skilled professionals for guiding development processes in the key economic sectors of agriculture, mining, industry and infrastructure creation.

This goal has not yet been achieved. As indicated in Table 4, only three African universities—the formerly socialist countries of Angola, Mozambique and Tanzania—have been able to allocate 60 percent of their spaces to science and technology disciplines. Among the 33 countries for which recent information is available, 22 of them (67 percent) have one-third or less of their students enrolled in these areas. In 16 of these countries, the proportion of science students actually declined during the 1980s. The greatest losses occurred in Botswana, Ethiopia, Kenya, Malawi and Uganda. Surprisingly, these declines seemed unrelated to rates of growth in tertiary enrollments, as all categories manifested more or less equal shares of gainers and losers. This low and often declining proportion of science and technology enrollments has led the World Bank (*1989, p. 81*) to decry an "inappropriate mix of outputs" in African higher education.

In this setting, the capacity of Cameroon, Côte d'Ivoire, Madagascar and Nigeria to maintain and even increase science enrollments while undergoing sizeable university expansion must be recognized as a major achievement. Substantial gains were also recorded by Angola, Burkina Faso, Central African Republic, Mali and Mozambique. In general, however, efforts to modify the output mix to increase the proportion of students in science and technology areas have proved enormously difficult. The University of Ghana, for example, has been unable for several years to fill its modest science quota in spite of aggressive efforts. For this reason, some African universities may seek to redress this problem by providing differential rates of financial assistance to students which give preference to science and technology disciplines.

In a recent assessment of African higher education, Teshome Wagaw (*1990, p. 23*) suggests that part of the blame for this low level of accomplishment in science education lies with the secondary school system. *"Since the foundations of the skills and attitudes that may lead students to choose these fields are laid in the grade schools, and since most of these schools are destitute of sufficient facilities, equipment, and qualified teachers, the goal of preparing enough engineers, technicians and other technical specialists remains elusive."* This conclusion is corroborated by Manuel Zymelman (*1990, p. 51*) in his study of Science, Education and Development in Sub-Saharan Africa. He notes the same constraints, and concludes that secondary schools are consequently failing to supply adequately trained candidates to higher education institutions and to foster positive attitudes towards modernization in general.

A 1991 study of science training by the Southern African Development Coordination Conference (*SADCC 1991*) echoes these themes. It notes that as a result of poor science preparation at the secondary level, many universities (such as Botswana, Lesotho, Mozambique) have had to add special pre-university remedial courses for in-coming students. In spite of this, enrolment capacities in the sciences are often not fully used

because of a lack of qualified candidates. In essence, resource starvation at the secondary level leads to less qualified university students, which contributes to declining performance and internal inefficiency within universities (*Colclough 1989, p. 273*).

Why has science education taken on these characteristics in Africa? The explanations are multiple and complex (*Odhiambo and Isoun 1989*). The causes include inadequate science education at the secondary level, poor training resources and facilities at the tertiary level, and relatively limited employment opportunities in many of the science disciplines. Some observers suggest that societal attitudes towards knowledge are central to the development of science education. ... *"it is impossible to separate the diffusion of 'scientific' attitudes from the structures and principles of control in a society: this is true when the society is a school as much as it is for a nation. If the essence of science is the continuous challenging of previously accepted knowledge, then this implies also the continuous challenging of authority. ... It needs to be made clear, however, that this questioning of authority does not imply anarchy, but merely that the basis of authority must be rational, understood and accepted, rather than imposed and defended through appeals to tradition and charisma."* (*Lowe 1988, p. 39*).

One implication of such reasoning is that rigid political systems are less likely to foster scientific and technological advancement within their societies. If this is true, then recent trends towards political pluralism on the African continent may boost science and technology performance over the long run.

A number of African countries are currently seeking to strengthen science education at the secondary level. One of the more innovative approaches comes from the Forum for Children's Literacy in Science and Technology, a consortium of African scientists, educators and media specialists. The Forum has encouraged media innovations, such as interactive magazines and informal learning materials, and organized summer science camps in Zanzibar for teachers and students.

Together with other observers, Wagaw (*1990, p. 23-24*) stresses that Africa will need a greater capacity for developing and managing technology if it is to successfully confront its present problems of population explosion, energy shortages, environmental degradation, urbanization and persistent disease. He concludes that: *"African institutions of higher learning face a dual challenge: to undertake a considerable amount of research in technology geared to the development requirements of communities and based on solid knowledge of such communities on the one hand, and to expand basic research, which alone can give them full equality with other universities in the world on the other. So far, efforts to meet this dual challenge remain the weakest link in African higher education."*

Such arguments, together with concern over rising unemployment among social science graduates as structural adjustment policies limit public sector expansion, have undergirded emerging efforts to augment the proportion of students studying science and engineering. These initiatives might be better informed by labor market analysis and tracer studies of university graduates in all fields. It is worth noting that *"there is, in fact, little evidence that the labor markets of many African countries can provide employment to more graduates in engineering and other applied fields"* (*Elsemon and Kourouma 1991, p. 38*). In short, employment opportunities for skilled professionals are likely to remain limited until African economies experience an upturn.

*Table 4. Proportion of Higher Education Students Enrolled in Science and Technology Disciplines*[a]

| *Country* | *1980* | *1986-89*[a] |
|---|---|---|
| *Small No-Growth Systems* | | |
| Chad | – | 12 |
| Lesotho | 12 | 10 |
| Liberia | 33 | 39 |
| Malawi | 34 | 17 |
| Mali | 24 | 42 |
| Swaziland | 41 | 33 |
| Tanzania | – | 62 |
| Uganda | 46 | 22 |
| Zambia | – | 29 |
| *Small But Expanding Systems* | | |
| Burundi | 31 | 30 |
| C.A.R. | 17 | 27 |
| Gabon | – | 33 |
| Rwanda | 34 | 26 |
| Sierra Leone | – | – |
| Togo | 33 | 24 |
| *Small Rapid Growth Systems* | | |
| Angola | 54 | 64 |
| Benin | 27 | 21 |
| Botswana | 22 | 9 |
| Burkina Faso | 20 | 32 |
| Mozambique | 47 | 61 |
| Niger | 44 | 31 |
| *Medium Size Systems* | | |
| Congo | 18 | 13 |
| Ghana | 46 | 42 |
| Senegal | 33 | 39 |
| Somalia | – | 26 |
| Zaire | – | 40 |
| Zimbabwe | – | 10 |
| *Large Multi-Institutional Systems* | | |
| Cameroon | 29 | 32 |
| Côte d'Ivoire | 27 | 32 |
| Ethiopia | 57 | 40 |
| Kenya | 44 | 32 |
| Madagascar | 40 | 43 |
| Nigeria | 41 | 39 |
| Sudan | 25 | 20 |

a. Most recent year; includes natural sciences, mathematics, engineering, architecture, agriculture, communications, industrial programs, medicine, and health-related fields.

*Source:* UNESCO, Statistical Yearbook, 1991.

Overall, the output mix of African universities seems to have shifted during the 1980s. An analysis of the areas of study with the largest enrollments, based on the 25 universities for which comparative information is available for 1980 and 1987-88, suggests that a modest change in university and student priorities occurred. As indicated by Table 5, enrollments in 1980 were concentrated in humanities and the social sciences, followed by education and the natural sciences. Toward the end of the decade, humanities remained the single largest area of enrolment, but education had increased its share at the expense of the social sciences. Commercial and business studies join the natural sciences as an important secondary area.

When Nigeria—which represents one-third of total enrolment within this group—is excluded from the analysis, a more striking pattern emerges. Although humanities remains the dominant area of study throughout the period, the social sciences drop from second to sixth place, while Commercial and Business Studies rises to replace them in second place by 1987-88. It is often argued that much of Africa's expansion in higher education enrollments has taken place in the humanities and social sciences because of the lower per capita costs associated with these disciplines compared with the natural sciences, medicine or engineering. While there is some truth in this, the findings in Table 5 suggest that students may consider future employment prospects in making their choices. They are now less likely to enter the social science areas, but are increasingly attracted into business studies as economic recovery policies curb public sector employment and encourage private sector development.

*Table 5. Areas of Largest Higher Education Enrolment by Rank*

| *Including Nigeria* | |
|---|---|
| 1980 | 1987-88 |
| 1. Humanities and Religion | 1. Humanities and Religion |
| 2. Social and Behavioral Science | 2. Education |
| 3. Education | 3. Commercial and Business Administration |
| 4. Natural Sciences | 4. Natural Sciences |
| 5. Law | 5. Law |
| 6. Commercial and Business Administration | 6. Social and Behavioral Science |
| *Without Nigeria* | |
| 1980 | 1987-88 |
| 1. Humanities and Religion | 1. Humanities and Religion |
| 2. Social and Behavioral Science | 2. Commercial and Business Administration |
| 3. Law | 3. Education |
| 4. Education | 4. Law |
| 5. Commercial and Business Administration | 5. Natural Sciences |
| 6. Natural Sciences | 6. Social and Behavioral Sciences |

Source: UNESCO, Statistical Yearbook, 1991.

Two other aspects of the university output mix also deserve mention. They concern educational preparation for entrepreneurship and for dealing with complex development problems. Both imply the need for more flexible curricula and degree requirements to facilitate interdisciplinary study. Prompted by growing graduate unemployment, particularly in the social sciences, and by economic projections which suggest that future employment opportunities are likely to be concentrated in the private—and especially the informal—sector, growing attention is being given to training in business-related skills. These include economics, accounting, and business administration. Nigeria and Cameroon, for example, are now emphasizing "education for self-employment" within the university curriculum. Swaziland and Lesotho have established special programs to encourage the development of entrepreneurial talents.

The second area where change is occurring concerns the capacity for inter-disciplinary problem-solving. Many of the critical problems currently confronting Africa—environmental deterioration, urbanization, agricultural development on marginal lands, AIDS—must be addressed by professionals capable of using information and analytical tools from several disciplinary areas. Yet degree requirements at many universities oblige the student to follow a single disciplinary track. Additionally, pervasive chalk-and-talk teaching methods with little opportunity for hands-on experience in problem analysis provide an education which is largely conceptual and difficult to transfer to the workplace.

Graduates of such programs may find that their education prepares them poorly for managing problems on the job. Critical skills—such as analytical thinking, ability to identify relevant resources, and effective time management—may be lacking. In Togo, for example, a survey of employers found that *"businessmen rank university and high school graduates high in the theoretical, but low in the practical skills of running a business. Worse, university graduates tend to have a 'diploma syndrome', feeling that their diploma entitles them to a good paying management position"* (*Orsini and Harmon 1988, p. 8*). In Kenya, the Chairman of the Kenya Federation of Employers deplored graduates' lack of discipline and work ethic (*Court 1989*). Employers may be forced to provide supplemental training at their own expense to produce the type of employee that they require. For this reason, financial and social costs are associated with maintenance of rigid academic structures.

In the effort to break down the division between education and employment, universities might approach local businessmen to explore the possibility of short-term student placements, semester internships, or other types of work/study programs. A re-thinking of curricula and academic requirements will consequently be an important aspect of any attempt to enhance the quality and relevance of university education. The local business community can be an important partner in this undertaking.

This process is, in fact, underway. Kenya has re-structured its educational system (the 8-4-4 model) to enhance university education and give greater emphasis to science education, although the new system has not yet performed as expected. The new St. Louis University in Senegal employs an academic credit system in place of the annual pass/fail examination more commonly used by Francophone countries to determine student advancement. Cameroon, Benin, Cote D'Ivoire and other Francophone countries are currently considering a similar change. Burundi, Lesotho and Mozambique have recently revised their curricula in the effort to tie content more closely to labor market needs. These are

encouraging and instructive initiatives. In light of the rapid pace of economic and technological change on the continent, more systematic attention to course content and curriculum structure within the university community is an urgent concern.

Staff Retention: Attracting and retaining talented staff has now become the biggest current problem for many African universities. During the 1980s teaching staff at most universities suffered a sharp erosion in the purchasing power of their salaries. Real wages in the region fell by 30 percent between 1980 and 1986, with salaries at the highest grades (university faculty) dropping the fastest (*Vandemoortele 1991, p. 25*). In a number of countries, a Ph.D. degree holder may now earn less than US$300 a month. A lecturer's salary in Uganda—just US$19 a month in late 1991—buys barely a week's supply of food. In Ghana, a faculty member's entire annual income equals roughly the cost of a new refrigerator. Under such conditions, universities have witnessed the departure of their best teachers and researchers. Academics from Ghana or Uganda can multiply their income tenfold by moving to South Africa, where competition for employment is less stiff than in Europe or North America.

Universities are left with young, inexperienced and insufficiently trained staff who lack the necessary mentors and role models to guide them. Ironically, experience has shown that it is often easier for a university to obtain a US$100,000 fellowship to train a new Ph.D. than to arrange for an additional US$100 a month in salary support that would enable it to keep existing Ph.D.s on the job. This is because university salaries are normally incorporated within the civil service pay scale, and not open to adjustment by university managers.

The exodus of talent from the universities reflects a wider regional phenomenon. The migration of highly skilled professionals from Sub-Saharan Africa increased from an average 1,800 per year over 1960-74 to 4,400 per year during 1975-84. By 1987 the annual number of departees was 23,000. UNCTAD estimates that 30 percent of the continent's stock of skilled professionals is now resident abroad. Some 70,000 Africans trained in Europe remain there, and more than 10,000 educated Nigerians are reportedly working in the United States (*World Bank 1991*). Within the region, estimates suggest that 6,000 Africans from other countries currently teach in the universities and secondary schools of South Africa (*Prah 1991, p. 77*). It is not surprising that technical assistance to Africa increased by 50 percent between 1984 and 1987, with an estimated 100,000 expatriates currently working on the continent—more than at independence—at an annual cost of US$4 billion (*World Bank 1991, p. 5*).

This "brain drain" has affected some countries more than others. For example, the ILO calculates that two-thirds of Sudan's professionals have left the country. Uganda is reported to have lost more than half of its high level cadres. Evidence from Nigeria, Ghana, Ethiopia and Zambia suggests that these countries have suffered similar heavy losses. Brain drain seems to result as much from "push" factors of political/ethnic conflict or severe economic mismanagement as from the "pull" factors of more attractive salaries and working conditions. Among these emigrants are many full or part-time university faculty, university affiliated researchers, and higher education managers and policymakers (*Russell, Jacobsen and Stanley 1990, p. 45-46*).

Available evidence, including conversations with university rectors, presidents and vice-chancellors, indicates that the problem of staff retention has reached a critical level. The University of Zimbabwe reported a 34 percent vacancy rate in

1992. The situation at Makerere University is worse, with 48 percent of staff posts (particularly in the sciences) unfilled.[3] Even where positions are filled, staff may spend little time on the job as the result of needs to supplement their salaries through other employment. At Eduardo Mondlane University in Mozambique, for example, a 1991 survey found that three-fourths of the academic staff were engaged in secondary economic activities. As a result of staff attrition, university capacity for teaching and research is steadily eroding.

Consequently, earlier substantial investments in university staff development are now at risk. What is needed are reward systems that remove the obligation of academic staff to seek other types of jobs for reasons of economic survival, and that allow them to dedicate themselves to the activities for which they were trained. If universities and governments do not find ways to enhance the attractiveness of academic employment, they will be unable to provide the next generation of African leadership with the level of training needed to steer the continent successfully into the 21st century.

In addition to suffering capacity loss due to unfavorable economic or political conditions, African universities may confront losses resulting from the spread of AIDS. At mid-1990, the World Health Organization estimated that more than 5 million Africans had contacted the AIDS virus, and that at least half of them would die during the coming decade. Seropositivity has proved more of an urban than rural phenomenon, with 20 to 30 percent of urban adults affected in Uganda, Tanzania and Rwanda. The limited information available suggests that the more educated and affluent tend to figure disproportionately in this group. In such settings, governments may be well advised to target AIDS prevention public education programs at the university community among others.

In sum, university performance in meeting national human resource requirements has been impressive overall, but is now the object of concern. Graduate output has not kept pace with enrolment growth, and the distribution of graduates among disciplinary areas appears inconsistent with probable labor market demand. The predominately conceptual orientation in university training does not adequately prepare the student for the world of work. And increasing professional mobility within a global labor market has generated acute staff retention problems for African universities, contributing to the growing use of foreign technical assistance.

### *Research for Development*

Research output has lagged behind the training accomplishments of African universities. Analyzing the number of African publications included in the Science Citation Index (SCI), Eisemon and Davis (*1991, p. 278*) find that only three African countries—Senegal, Rwanda and Congo—enjoyed significant growth in the production of scientific papers over the past decade, and many more have suffered major declines.[4] Using a similar approach, Zymelman (*1990, p. 7-8*) observes that Kenya, Nigeria and Sudan account for 70 percent of all African scientific publications. These are predominantly in the medical and biological fields, with the physical sciences and engineering being notably underrepresented. It is estimated that African university researchers in the natural and biological

[3] These data must always be viewed with caution until clarified, as universities frequently leave posts vacant on purpose as a strategy for augmenting their tight budgets.

[4] The use of the SCI as a measure of scientific output in the Third World is controversial since it is based on a selected number of publications from developed countries.

sciences produce, on average, one scientific publication every seven years (*Gaillard and Waast 1991, p. 28*). In general, African universities and their associated scientific communities have made little progress in fulfilling their mandate to generate applied and policy-relevant knowledge as inputs to national development processes.

The lack of national investment in research is one reason for this weak performance. A 1964 UNESCO conference held in Lagos, Nigeria produced a commitment by participant countries to spend 0.5 percent of their GNP on scientific research (*UNESCO 1964*). Twenty years later, this goal was far from being met and research investment remained low. On average, African nations were estimated to have spent just 0.36 percent of GNP for scientific research in 1985 (*UNESCO 1987, p. 23*). More recently, the African Academy of Sciences has suggested that scientific investment may now be as low as 0.10 percent of GNP (*Odhiambo and Isoun 1989, p. 3*). Since other studies have concluded that research output is directly related to the amount invested in research, a minimum guarantee of national funding for research could be expected to produce positive results. The United States, Japan and the United Kingdom spend 2.3 to 2.6 percent of GNP on research—twenty times as much.

At the level of individual universities, governmental allocations for research are often nonexistent. A 1990 study of graduate research and development capacity at ten universities by the Association of African Universities discovered that only two received a formal allocation for research in their annual budgets (*Nwa and Houenou 1990*). In a subsequent 1991 cost-effectiveness study of another nine African universities, the AAU found that research expenditures represented 2.7 percent of university budgets. Wide variations in the amounts allocated occurred from one year to the next, thus making it difficult to mount and sustain institutionalized research programs (*AAU 1991, p. 31-36*). At the National University of Côte d'Ivoire, for example, an already meager research budget was cut in half between 1983 and 1989. This allocation now constitutes less than 0.7 percent of the university's budget. It is not surprising that assessments of research capacity in 16 African countries conducted in 1991 under the auspices of the DAE Working Group on Capacity Building in Education Research and Policy Analysis characterized research conditions as depressed. National demand for research inputs is poorly articulated, and little incentive exists for individual researchers. The research performance of Francophone universities was judged to be particularly distressing (*Kinyanjui 1991*).

Foreign donors have often endeavored to offset this lack of government funding for research. In some cases, they have tried to enrich university teaching programs and intellectual environments. In others, they have been more interested in the specific research product within the context of larger donor priorities for a particular country. The result has been a growing role for donors in financing African scientific research. In Kenya, for example, it has been estimated that the ratio of foreign to national research funding is about 10:1 (*Eisemon 1986*).

Africans concerned with this dependency also note donor tendencies to concentrate support on selected institutions in a few countries, and to stress short-term analysis of specific problems over research capacity-building (*Kola Cisse 1992, p. 57*). The impact of such trends on the development of a national research culture is clearly detrimental. Under such circumstances, African research runs the risk of becoming: ... *"science supported by foreign donors, carried out in a developing country often in collabora-*

*tion with foreign researchers, supported by international and bilateral assistance agencies and the philanthropic foundations, which is responsive to the donor community's agenda in the Third World, and published in English" (Elsemon 1991, p. 26).* This dependency on external research funding creates dilemmas for African researchers. Whose interests should they serve? Their decisions may incur the risk of alienation from colleagues, policymakers or donors.

In addition to limited funding for research, a second cause of low research output (and the poor quality of many research products) has frequently been an environment which discourages critical investigation, particularly when it is related to national policy issues (*Rathgeber 1988, p. 405*). This constraint is further analyzed in Chapter 4.

To date, the research performance of African universities has been deficient. While universities have not always accorded research sufficient priority, governments must also shoulder much of the blame. Policy decisions on forms of higher education financing and undergraduate enrollments have frequently created disincentives for research and for the graduate training with which it is often associated. By not committing themselves to building national research capacity through a supportive policy framework for science and technology, sustained funding and use of local technical expertise, they inhibit the quality and output of the research enterprise. Universities in countries where freedom of expression is curtailed suffer an important extra constraint in this regard.

*Community Service*

Service to the surrounding community and to society at large has been another of the founding mandates given to African universities. It is understood to include university extension, small assistance projects, cultural activities, and other initiatives of social benefit. It does not include such important contributions as the secondment of staff to government agencies, research, or paid consultancies.

There are many instances of laudable university service to the community. Examples include soil surveys and fertility assessments of agricultural lands, establishment of quality controls for prescription drugs, AIDS screening, guidance to insect pest control efforts, production of educational programs for radio and television, legal advice, and various activities to enhance the status and participation of women in society (*Nwa and Houenou 1990, p. 65-67*). A number of universities encourage volunteer community service projects for students during holiday and vacation periods.

It seems fair to conclude, however, that community service has not become an institutionalized activity within African universities. With few exceptions, they make no formal budgetary provision for this purpose, nor do they provide material rewards to staff for achievement in this area. They normally do not maintain institutionally-defined programs and associated staff positions for university extension or outreach. The few exceptions are often donor-dependent, such as the Institute of Extra-Mural Studies at the National University of Lesotho. To a large extent, community service remains a peripheral appendage to the university system. Notable accomplishments in this area are most commonly the result of individual initiative by staff who either acquire donor assistance or proceed on a volunteer basis. With the possible exception of extension education programs, service activities are unlikely to be more than short-term undertakings that generate minimal institutional benefits for university teaching and research programs.

In universities where community service has not been institutionalized and where teaching and research productivity is also found wanting, it may be worthwhile for those institutions to consider setting aside this aspect of their mandate for a time. Such activities are clearly subordinate to the universities' main mission of education and inquiry, and compete for staff and financial resources already in short supply. It is not apparent that African universities currently possess a comparative advantage in assuming service responsibilities. In the short run, at least, the better strategy may be to concentrate limited staff, financial and infrastructural assets on strengthening university teaching and research, and leave community service to the rapidly expanding number of African non-governmental organizations better equipped for this purpose.

### *Access and Diversity*

Access: In spite of the notable if uneven expansion of higher education enrollments over the past decade, access to the university remains relatively constrained. Swiftly rising enrollments have improved proportional access in spite of rapid population increase. However, these gains were unevenly distributed across the continent as five countries registered absolute declines in access, and another four registered gains of ten percent or less. For some countries, the percentage of tertiary students within the relevant age group could decline during the coming ten-year period as the number of potential students increases faster than the capacity to absorb them, even under the most optimistic economic assumptions.

A higher education system financed by the entire population but available to only a tiny minority has a highly regressive fiscal impact. This is particularly so when the majority of university students are drawn from high and middle-income urban families. In Congo, for example, 30 percent of the education budget is allocated to 2 percent of the student population. In Rwanda, 15 percent of the budget benefits just 0.2 percent of the students. And in Burkina Faso, 28 percent of education sector expenditures target just 1.2 percent of the students (*Salmi 1991, p. 4*). In this context, universities must make special efforts to ensure that student enrollments reflect the socio-economic composition of their countries. For example, 25 percent of Mozambican students and 20 percent of Zimbabwean students come from peasant or working class backgrounds. Scholarships or loans provided on the basis of demonstrated economic need are one way of ensuring that such diversity is achieved.

Ethnic Diversity: Africa's universities are called to serve as important cultural crucibles in which future institutional leaders from diverse regional and ethnic backgrounds can share their respective heritages and learn to work together. For historical reasons, adequate representation of national constituencies within student populations will be important for long-run political stability. This importance is likely to increase as countries institute reforms designed to create more pluralistic political systems. Observations on this subject with regard to Ethiopia can easily be generalized to other Sub-Saharan nations: *"Educational facilities and opportunities have for too long been not only limited but unevenly distributed among ... the different ethnic or religious groups within Ethiopia. Due to historical reasons, people living in the Addis Ababa-Shewa, Asmara-Hamassen, Hararge and Wollega regions have fared much better when it comes to the amount and quality of educational opportunities. These regions ... enjoy higher representation of powerful people in government. ... the remaining ten regions or provinces have suffered from poor and inadequate educational provisions. The result is that people from the*

*favored regions are over-represented in the institutions of higher education. In addition to concerns for fairness and justice, these imbalances constitute political and economic pitfalls as well" (Wagaw 1990, p. 251-252).*

The subject of geographical and cultural representation is a politically sensitive topic in the African context. Those who raise these issues are regularly denounced as seeking to undermine national unity. This explains to a large extent why information on the geographical and cultural composition of university enrollments is rarely collected. One result is that analysis of this topic is non-existent in most settings. A notable exception is Eduardo Mondlane University in Mozambique, which routinely lists the geographical distribution of its students, according to father's birthplace, in its annual statistical bulletin. Nevertheless, efforts to ameliorate regional and ethnic inequalities in access to higher education have contributed directly to enrolment expansion in many settings.

Gender Diversity: The 1980s saw increased awareness, in Africa and elsewhere, of the potential for women to make important contributions to the development process. Following the U.N. Decade for Women (1975-85), donors and governments began to give more attention to gender concerns in the development of their policies and programs. It is reasonable to think that one consequence of this heightened awareness might be a steady improvement in the traditionally low participation of women in higher education.

But these gains in women's participation did not occur (Table 6). Among the 31 countries for which data are available, women's access to higher education actually declined in 9 during the 1980s. Analysis of these downturns is a complex undertaking for which little empirical guidance exists (*Bellew and King 1991*). These declines may reflect the documented tendency for families to reduce their investment in women's education during periods of economic difficulty. In more rapidly expanding systems, where one might expect that "pipeline" limitations would make it difficult for women's participation rates to be maintained as numbers increased, negative trends were in fact less likely to occur. In at least two cases where significant national gains in women's participation were registered (Kenya, Nigeria), it can be speculated that this improvement was in part the result of decisions to locate new universities outside the capital city, thereby allowing women to study closer to their homes and families.

With women's participation in higher education pegged at 25 percent or less in 22 countries, the opportunity exists for substantial improvement. Strategies for effecting such gains, however, are not at all clear. Identified obstacles to greater female participation in primary and secondary education include opportunity costs, shortage of female role models, inconvenient school schedules, gender-biased teaching materials, higher drop-out and repetition rates for girls, cultural and religious barriers, and inappropriate physical facilities (*Bellew and King 1991*). One researcher notes that pregnancy accounts for a high proportion of female dropouts in secondary education (*Dirasse 1990*). Similar systematic analysis of women's participation at the tertiary level is only just beginning, with a recent paper by Namuddu (*1992*) representing a notable contribution.

Imbalances in gender representation are even more pronounced within the academic staff of African universities. On the average—based on 25 universities for which dated information is available—women make up roughly 12 percent of teaching staff. Their participation ranges from 4 to 7 percent at universities in Burkina Faso, Chad, Ethiopia, Guinea, Rwanda, Tanza-

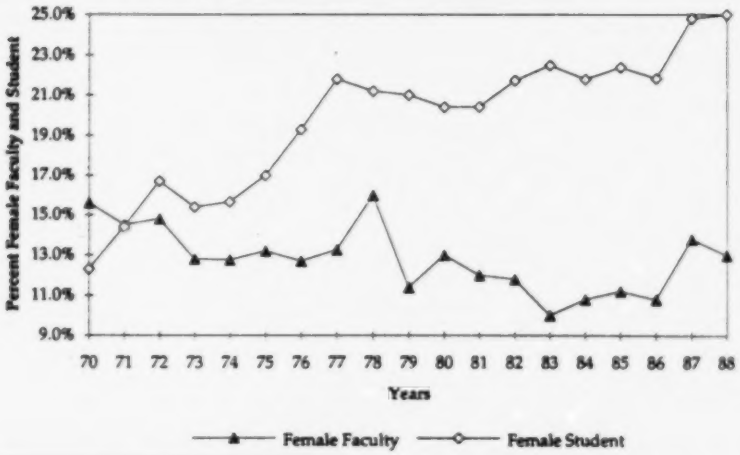
nia and Uganda to a high of around 26 percent in Madagascar and Mozambique. Participation rates are also lower in Francophone universities than in Anglophone universities (*UNESCO 1991*).[5] At the highest level of management, women serve as chief executives in only four of Africa's 97 universities (Universities of Benin and Lagos State in Nigeria, University of Swaziland, and University of Buea, Cameroon). As illustrated in Figure 1, rising female representation among university students has not yet translated into greater access by women to university academic and administrative positions.

The situation in South African universities is marginally better. Women constituted 29 percent of academic staff in 1990. They were, however, concentrated on the lower rungs of the academic ladder, comprising fully 61 percent of junior lecturers, but only 5 percent of professors.

With regard to women's prospects in the labor market following university education, Namuddu (*1992, p. 15*) offers the following assessment: *"There is little data on the levels and quality of employment undertaken by females who have had access to higher education. The majority work for the civil service as secondary school teachers. Women form a small percentage of academicians at university although recognizable achievements have been recorded in arts faculties. There is evidence that women in academic work are getting into administrative positions at a time when there are inadequate resources to sustain reasonable functioning of institutions. This may result in further denigration of female abilities rather than in enhancing their status. Graduate women lack options in employment, promotion and upward mobility because of discrimination and because of their role as housewives."*

In sum, then, university access is likely to become more selective over the coming decade. In the process, care will be needed to ensure that student bodies remain nationally representative in terms of geography, culture and gender. Without this, there will be a risk of long run declines in national political stability, problem-solving creativity and cultural growth.

*Figure 1. Female Faculty and Student Participation*




[5] These data are not very current and cover various years from 1983-89. Following the U.N. Decade for Women, it is surprising that such basic information concerning women's participation is not more complete.

## *Table 6. Women as a Percentage of Total Higher Education Enrolment*

| *Country* | *1980* | *1988[a]* | *Trend* |
|---|---|---|---|
| ***Small No-Growth Systems*** | | | |
| Chad | 7 | 8 | .. |
| Lesotho | 46 | 70 | + |
| Liberia | 28 | 24 | − |
| Malawi | 25 | 14 | − |
| Mali | 11 | 13 | .. |
| Swaziland | 37 | 42 | + |
| Tanzania | 20 | 15 | − |
| Uganda | 20 | 23 | .. |
| Zambia | 19 | 17 | .. |
| ***Small But Expanding Systems*** | | | |
| Burundi | 24 | 22 | .. |
| C.A.R. | 8 | 14 | + |
| Gabon | 25 | 34 | + |
| Rwanda | 11 | 23 | + |
| Sierra Leone | 17 | 24 | + |
| Togo | 15 | 13 | .. |
| ***Small Rapid Growth Systems*** | | | |
| Angola | 16 | − | .. |
| Benin | 18 | − | .. |
| Botswana | 34 | 44 | + |
| Burkina Faso | 22 | 23 | .. |
| Mauritania | 10 | 13 | .. |
| Mozambique | 30 | 24 | − |
| Niger | 20 | 14 | − |
| ***Medium-Size Systems*** | | | |
| Congo | 15 | 15 | .. |
| Ghana | 20 | 18 | .. |
| Senegal | 19 | 21 | .. |
| Somalia | 13 | 20 | + |
| Zaire | 9 | − | .. |
| Zimbabwe | 22 | 25 | .. |
| ***Large Multi-Institutional Systems*** | | | |
| Cameroon | 15 | − | .. |
| Côte d'Ivoire | 19 | 20 | .. |
| Ethiopia | 11 | 14 | .. |
| Kenya | 25 | 31 | + |
| Madagascar | 33 | 43 | + |
| Nigeria | 15 | 26 | + |
| Sudan | 27 | 41 | + |

a. or proximate year

*Source:* UNESCO, Statistical Yearbook, 1991;
Association of African Universities, Directory of African Universities, 1988.

*Assessing Effectiveness*

By world standards, Africa's universities are still young. In their youthful idealism, they set lofty goals that, in some cases, became elusive as financial support for higher education eroded as the 1980s advanced. Impressive achievements have been registered in transforming colonial universities into legitimate national institutions of higher learning, and in providing university education to increasing numbers of citizens. At the same time, the "developmental university"—a paradigm offered by the Association of African Universities (*Yesufu 1973*) and pioneered by the University of Dar es Salaam (*Omari 1991*)—has been slow to materialize. Research output did not meet national expectations before the rise of the African higher education "crisis", and has since declined further. Community service has not become an institutionalized part of university life in most settings, and now constitutes an atrophied appendage which distracts attention and diverts resources from the primary university responsibilities of teaching and research. Universities have frequently not been nationally representative in the composition of their staff and students, sometimes in terms of ethnicity, but always in terms of gender.

Years of trying to do too much with too little have taken their toll on the universities' institutional health. Earlier flagship institutions—Dakar, Legon, Makerere, Nairobi—have seen their reputations wane. Universities find themselves at odds with their governments over unmet expectations, offering a product of uncertain quality and relevance under financially unsustainable conditions. Universities were slow to recognize that they no longer occupied tenable positions. The current crisis in African higher education did not arrive full-blown on university doorsteps. It crept in gradually through a growing accumulation of small setbacks that initially seemed manageable but have now, in the aggregate, assumed daunting proportions. Although the performance of African universities during their developmental phase merits respect, a more challenging second phase of reform and renewal now faces them.

African universities have now begun to take up the challenge of institutional preservation at acceptable standards. Across the continent, this challenge has been engaged through various institutional initiatives, innovative approaches, experimental undertakings, and patient pursuits. While these activities often represent piecemeal responses to a daunting set of problems, in the aggregate they point the way to strategies for university stabilization and revitalization.

The following sections of this paper seek to crystallize the problems and capture the responses associated with this process. They offer six guidelines for reversing recent negative trends and initiating a return to normalcy.

1. Improved university/state relations are an essential first step in the process of university stabilization.
2. Financial diversification is a necessary cornerstone for university revitalization.
3. Management improvements constitute the best-short term strategy for producing tangible gains and generating positive momentum.
4. Appropriate structures of university governance ensure both institutional stability and innovation.
5. Relevance in teaching and research is the key to political support for universities among all interest groups.
6. Quality improvements should be the investment priority for any additional resources.

# 4

# *University/State Relations*

Universities and the governments that support them exist in an often uneasy and sometimes adversarial relationship across much of Sub-Saharan Africa. The principal sources of this tension are governments' perception of the university community as a frequent locus of criticism and political opposition, the increased involvement of governments in university affairs, and the inability of governments to provide for the financial needs of universities on a sustainable basis.[6]

This was not always the case. In the early days of African independence, it was generally assumed that universities and their governments shared common goals in promoting national development and nation-building. In summarizing the landmark 1972 AAU conference on "Creating the African University," T.M. Yesufu laid out the arguments for what has come to be known as the "development university." He then went on to add an important caveat: *"The general view was that whatever the position in the more developed countries, the university in Africa occupied too critical a position of importance to be left alone to determine its own priorities. The university is generally set up on the initiative, and at the expense of, the government to meet certain objectives. The government, too, by virtue of its position of leadership in the task of planning and execution of economic and social programs, seems the best placed to determine the priorities for the universities. The African university should, in normal circumstances, therefore accept the hegemony of government" (Yesufu 1973, p. 45).*

Although university autonomy was not a significant concern at this gathering, it has gradually emerged as a paramount. When a senior Vice-Chancellor and leader in African higher education was asked in 1991 to name the most critical problem currently facing African universities, he answered without hesitation, "university/state relations." The following discussion will examine the dynamics which have lead to this.

### *University/State Conflicts*

Universities initially espoused the development aspirations of newly-independent governments and saw themselves as partners in the nation-building enterprise. Only later did their staff and students gradually become disillusioned with governments' inability to deliver economic development expectations. Poor economic performance during the 1980s, coupled with

[6] This chapter draws heavily upon a consultancy report by Kilemi Mwiria entitled "University Governance: Problems and Prospects in Anglophone Africa" completed in December 1991. The report was co-funded by the Rockefeller Foundation and the World Bank.

growing perceptions of mismanagement, corruption and limits on participation in national decision-making, prompted members of the university community—many of whom possessed comparative insight gained through graduate study abroad—to assert the academic community's traditional right to critical and independent thinking.

Academic freedom lies at the heart of university development. As defined by the same 1972 AAU conference (*Yesufu 1973, p. 45*), it is interpreted as ... *"the liberty of the university to determine course content and curricula, what to teach and how to teach; and it must embrace the liberty to do research, publish and disseminate knowledge freely, without let or hindrance."* These are the conditions which guarantee excellence in all aspects of the university's teaching and research. It is only through the open competition of ideas, and their ultimate synthesis in the form of new understanding, that knowledge and innovation—and therefore development—can be advanced.

As the result of a colonial heritage which did not encourage, and often actively repressed, the emergence of indigenous institutions, the newly-independent citizens of Africa frequently found themselves with few institutional channels for the articulation and mediation of group interests. In many cases, civic associations, professional organizations, trade unions, producer groups, cultural societies and political parties were nascent or non-existent. It was not surprising that, in the midst of this relatively barren institutional landscape, many citizens—particularly those from the middle and professional classes—turned to the university as an established institution located on the periphery of the state, and saw in it a vehicle for giving voice. This has been particularly true in settings where governments have discouraged political opposition, controlled the media, and circumvented established mechanisms of checks and balances.

As portions of the African university community began to question public policies and decisions, economically beleaguered governments frequently felt that their development partnership with universities had been betrayed. Some reacted by infringing on academic freedom. Permits, based on prior government review, have been required in order for university staff to carry out research. Informers have been placed on campuses. Outspoken academics have been publicly condemned, harassed, or subjected to worse treatment. Africa Watch, an international human rights organization, has documented: ... *"summary executions of academics and students; torture; arbitrary arrest and prolonged detention without charge or trial; imprisonment under conditions that are cruel and degrading; restrictions on freedom of expression, assembly, association and movement; dismissal of faculty staff; expulsion of students; university closures; banning of student organizations and staff unions; the prohibition of 'political activity' on campus; discrimination against students on the basis of race, ethnic or regional origin; censorship of teaching and reading materials; and manipulation of curricula." (Africa Watch 1990, p. 1).*

Under such conditions, the daily conduct of teaching and research becomes difficult if not impossible, and standards of quality are rapidly compromised. It is not surprising that many African nations have lost their leading intellects to settings that are politically more tolerant. The silencing of dissenting option stifles creativity and deprives countries of the capacity for innovation at a time when it is most needed. It may well be true, as one African intellectual has noted, that "In spite of all its problems, Africa's greatest poverty is a paucity of ideas" (*Chege 1989*).

At the same time, confrontation between states and universities has frequently undercut university efficiency in meeting its principal objective of producing skilled human resources for national development. University closures have become commonplace. Most recently, for example, the universities of Gabon, Dar es Salaam, and Zambia were shut down in early 1992 to control student protests. The entire university system in Kenya was closed for six months during 1991, effectively losing the academic year. In 1987-88, the University of Dakar was closed for a year, and other similar instances abound. A recent survey of student protests in Africa registers a steady increase in campus unrest. Between 1980-84 the average number of countries experiencing student protest was six per year, this average grew to over eight countries per year during 1985-89. In 1989 alone, twelve different African nations—Francophone and Anglophone—were affected (*Nkinyangi 1991, p. 47*).

Diverse issues prompted these confrontations. As an illustration, a survey of student unrest in four African universities over a 25-year period identified 86 separate incidents (*Omari 1991*). When these were categorized as to their principal cause: political, academic, managerial or student welfare-related, it was found that political issues accounted for 52 percent. Other researchers (*Eisemon and Davis 1991*) have argued that student unrest is more likely to be prompted by issues of privilege (allowances, meals, accommodations) than by political concern. A common theme in all cases has been the absence of effective mechanisms for communication and consultation to deal with these issues before they erupt into open conflict.

The costs of such conflicts and related university closures are high. They include *"the massive destruction of university and public property; loss of life for both students and the public; increases in the costs of running universities due to stoppages of instruction; creeping de-professionalization of the academia; loss of public esteem and respect for the teaching staff; unnecessary changes in the staffing of higher education; dislocations in the planning for human resource development and deployment; loss of funding, consultancies, and intellectual contacts"* (*Omari 1991, p. 3*).

For reasons of both efficiency and innovation, it is in the national interest for governments and universities to improve their working relationships.

### *Government Involvement in University Affairs*

The various University Acts stipulate that African universities should be largely free from government control. However, government involvement in the running of African universities has been a growing characteristic of government-university relations (*Kwapong 1992, p. 7*). Governments routinely appoint key university administrators and members of the university councils. Governments may also mandate the closure of universities, determine the terms and conditions of staff appointments, set enrolment levels, and censor staff research, teaching and travel agendas.

The composition of university councils—the primary policymaking body for Anglophone universities—has proved a major point of contention. Although academic staff and student representatives in council are usually elected by their respective constituencies, key members of the council, including the chairman, are often appointed by the head of state. In Zambia, for example, even though the University Acts allow for staff and students to elect their representatives to council, in practice the head of state must approve these individuals before they can

assume their council seats. Similarly, the head of state appoints two-thirds of the 38 council members at Makerere University in Uganda, and 15 out of 19 members at the University of Botswana. Such practices mean that government views tend to dominate and direct council deliberations. In this way, universities may lose much of the autonomy legally guaranteed to them.

Government usually has a major say in the appointment of senior university administrators. Governmental designation of university heads is particularly contentious because of the wide academic and administrative powers they command, especially when such choices are based more on political than on professional criteria.

Governments have also mandated expansion of university enrollments without regard for university capacity to absorb the increased numbers or to provide them with a minimum standard of educational quality. Kenya represents an extreme but not unique case. In 1988 the vice-chancellors of the country's four public universities decided to limit new admissions to 25 percent of the 13,832 students qualified to enter the universities that year. Public outcry, however, prevailed upon President Daniel arap Moi, who directed the Minister of Education and the vice-chancellors to admit most of these students. Although such political decisions are often motivated by legitimate concern for the thousands of secondary school leavers who seek university admission, they also reflect a noticeable tendency by politicians to treat higher education as a reward to constituencies for political support.

The growing involvement of government in university affairs is particularly worrying in light of the movement towards more pluralistic political systems on the African continent. It suggests that the political sphere is likely to become more turbulent and less predictable. In the short-run, it raises the possibility of further government manipulation of the higher education sector, whether it be efforts to control rising political activism on campus or to produce immediate benefits for the voting public. In either case, management and planning capacities of universities are likely to become less stable. In the long-run, of course, these political changes may well benefit the university by providing citizens with alternative avenues for political expression and consequently reducing pressures on the university to fulfill this role.

In light of these political uncertainties, and for reasons of efficiency and relevance in an environment of rapid change, it may be appropriate to assess government's comparative advantage in pursuing such direct management of the higher education sector. Governments have proved adept at creating and maintaining essential national infrastructure, providing basic social services, and preserving the integrity of national boundaries. They have demonstrated less effectiveness, however, in managing productive activities (such as parastatals) and, it is argued, in directly developing specialized services such as higher education. In both latter cases, the most effective role for government is likely to be supervisory or regulatory (*van Vught 1991*).

### *Financial Aspects of University/State Relations*

Governments provide 85 percent or more of operating funds to most universities. As a result, universities are heavily dependent on government for their continued operation and institutional stability, and are vulnerable to changes in the levels of financial support. As real levels of budgetary assistance fell steadily during the 1980's, universities found it increasingly difficult to pursue a coherent planning process. In some cases, governments

moved away from an earlier practice of multi-year commitments to university funding. In others, they proved unable to deliver on estimated budgets. In 1990-91, for example, the University of Zambia received 79 percent of its funding request, while the University of Ghana obtained 53 percent, and Makerere University 34 percent.

Governments control the policy environment for higher education in three basic ways. First, they set access policy, whether it be open access as in Francophone countries, expanded access as in Kenya, or limited access as in Tanzania. Second, they control the sources and mechanisms of finance. These often contain disincentives for universities that seek financial diversification, as when new income is appropriated by the state or when amounts equivalent to these receipts are deducted from the university budget.. Third, governments determine the extent to which universities possess the administrative flexibility to reallocate budgets internally so as to provide incentives or to put efficiency savings to other uses.

In most cases, the budget allocation process is based on negotiated or ad hoc decision-making processes. In these circumstances, argumentation skills and political connections are often more determinant that rational planning criteria (*Albrecht and Ziderman 1991*). Budgets are frequently adjusted by percentage increments linked to inflation or general availabilities. They are rarely set through predictable processes based on enrollments or strategic plans. One consequence has been considerable variation in the level of government support from one year to the next (see Chapter 2). In some cases, this difficulty is compounded by the fact that universities are funded on a monthly basis. Such circumstances can only make the quest for efficient university management more difficult; for example, by encouraging the postponement of routine maintenance and precluding the possibility of bulk purchase of frequently used materials.

Shrinking and less predictable financial support has contributed significantly to the deterioration of university-state relations. Staff complain about the poor terms and conditions of service. Students, subjected to crowded dormitory and classroom conditions and inadequate food, regularly add their voices to the protest. Examples abound of student unrest sparked by disputes over food quality (*Nkinyangi 1991, p. 48*).

While the university community blames government for being insensitive to its basic needs, government has been quick to point out that university members do not seem to comprehend severe economic constraints. Responding to a 1991 strike by university staff, President Kenneth Kaunda of Zambia asked them to ... *"show some understanding for the genuine problems that Government faces in raising the resources to implement these (salary) packages."* University staff and students have countered such appeals by noting that the same governments have invested heavily in development projects of questionable value and have often turned a blind eye on rampant corruption in public offices.

At the same time, a shrinking public purse has led to greater government concern with obtaining value for money from higher education. Cases of university mismanagement reinforce this concern (*Omari 1991, p. 25*). Some governments have sought to promote greater efficiency and accountability through the promulgation of guidelines designed to regulate public expenditures, rationalize the use of university resources, and moderate university autonomy (*Onwumechili 1991, p. 2*).

The financial tensions between governments and universities are unlikely to be eased until posi-

tive action is taken by both parties to address the principal sources of conflict. These include needs for improved communication, mediation, autonomy, accountability and financial diversification within this relationship.

### *Towards Improved University/State Relations*

Communication and Mediation: The first step to fostering more positive university-state relations lies in more effective communication between the two parties. This can be pursued formally and informally. Formal communication mechanisms should be considered for three separate purposes: policy dialogue, budget allocation, and political emergencies.

Institutional mechanisms for policy development and implementation reduce conflict by professionalizing the process on the basis of defined guidelines and procedures. In multi-university systems of higher education, competing institutional interests are often mediated and assessed by buffer bodies created for this purpose.[7] Examples include the Nigerian National Universities Commission and the Kenyan Commission for Higher Education. In other cases, this role may be played by Ministries of Higher Education, particularly in Francophone countries. In smaller systems, this responsibility may be shouldered by a National Planning Commission (as in Mozambique) or by the Ministry of Planning.

Budget discussions are normally conducted with the Ministry of Finance and ideally take place within a defined policy framework. Budget requests should be justified by a defined work plan for the fiscal year which includes a clear definition of priorities. The process should also include ample opportunity for government to question, and university to defend, the justification for each line item. To ensure good stewardship of public funds, government may consider developing general norms to promote cost-efficiency in costing and staffing. The Nigerian National Universities Commission, for example, uses these norms as the basis for an input-based system of budgetary allocation. Whenever possible, government should seek to reinforce stability in the budgeting process by committing itself to a guaranteed minimum level of contribution over a multi-year period. For example, a three-year rolling average, reviewed and adjusted annually, might be employed to smooth current ups and downs in the budgetary cycle.

The possibility of university-based emergencies involving public security concerns should be anticipated. Special communication channels could be set up to deal with such situations before they occur. Guidelines and procedures could be agreed upon, legal parameters clarified, and responsibilities assigned. Government police or security forces, as well as student representatives, might be invited to participate to reduce the chance of uncoordinated response when an incident occurs. Planning of this type holds the promise of reducing loss of life and property when campus unrest occurs, and of improving university/state relations in the process.

Opportunities also abound for improving informal communication between the two sectors. Universities could make greater use of opportunities to invite government representatives to offer guest lectures or seminars. In some cases, the use of government employees as part-time lecturers might also be feasible. University open-days create the opportunity to inform the general public of university activities and achievements. The University of Zimbabwe, for

[7] For an assessment of these buffer bodies, see Albrecht and Ziderman (1991).

example, organizes a special open day for government representatives at which it stresses its recent contributions to national development. For its part, governments might make greater use of university staff skills as contracted consultants. University staff might be invited more frequently to present in-house seminars at government offices.

Autonomy: Sub-Saharan Africa is currently in a period of uncertainty and change. Four main phenomena shape this challenging scenario. First, economic behavior is rapidly shifting in response to a re-structuring of economic policy and productive activities under a national structural adjustment efforts. Labor markets for new and traditional skills are quickly evolving, and new economic alliances are emerging. Second, political systems are becoming more pluralistic with the emergence of multiple parties and popular elections. On a continent where democratic tradition is younger than independence, the impact of this change on national leadership, policy-making processes and society as a whole is still unpredictable. Third, the promise of majority rule in neighboring South Africa suggests the likelihood of profound changes in the political and economic relationships of Southern Africa. This will create new opportunities for regional cooperation (and competition), including the educational sphere. The net result of these dynamic processes, so recently set in motion, is still difficult to discern. Fourth, the recent decline in ideological conflict between the East and West will change the organization of international development assistance over time. As geo-political competition fades, the rationale for bi-lateral development programs may weaken. And as donor countries focus on domestic economic challenges (for example, European unification, United States budget deficit), multilateral development programs could become more attractive. Such a shift away from bilateral assistance could have far-reaching implications on a continent where foreign aid has become an economic activity in its own right.

In the face of so much uncertainty, the watchword for African universities should be flexibility. Ensuring the necessary flexibility to respond effectively to a fast-changing environment will require the preservation, and in many cases the expansion, of university autonomy. If they are to offer training and research relevant to national needs, universities will need to possess internal organizational structures and management mechanisms capable of monitoring and adjusting to shifting circumstances.

The legal parameters of university autonomy may need to be reaffirmed and perhaps extended. In many African countries, for example, university salaries reflect the prevailing pay scales for government service. This creates a relatively inflexible system which makes it difficult for the university to offer performance incentives or to reward excellence. This system does not encourage efforts to improve management efficiency. Frequently, any savings generated by the university through a more productive use of its staff resources remains with the government and cannot be put to alternative use by the university. It also stifles initiative. In some cases, when any additional income is generated by the university, government reduces its contribution accordingly.

A recent World Bank study of financing strategies among 15 Anglophone African universities (*Blair 1992*) indicated that only half have complete control over reallocation of governmental funding from one expenditure heading to another. The rest have limited discretion to do so. Ideally, universities should be delegated full discretion to reallocate resources in the interest of maximizing efficiency and effectiveness. One way to do so would be through the provision of State funding in the form of block grants.

Universities may wish to receive their budgetary vote in the form of a single block grant from government that includes the salary allocation. If combined with appropriate accountability mechanisms, the block grant creates the necessary conditions for increased management initiative and efficiency in resource use.

The appointment process for the university's chief officers could be de-linked from close association with government. One way to do so would be for all such positions to be publicly advertised. A recruitment committee, drawn from members of the university council, might then review applicants' credentials, and forward a short list of the strongest candidates to government. In this way, the university community would participate in the choice of its chief executives, while government would have the opportunity to exercise its stewardship responsibility.

Accountability: If universities are to be accorded greater autonomy in their relations with government and donors, they will have to ensure that they remain fully accountable for any delegation of responsibility that they receive. There are various ways in which the universities' accountability might be enhanced. These include:

- A client-responsive financing structure, including cost-recovery, formula financing by government, and private participation (see Chapter 5).

- The preparation of a yearly work plan, including concrete objectives and activities, which might serve as the basis for coordinated funding discussions with government and donors.

- The preparation of an annual report which lists accomplishments under the prior year's work plan, and also identifies problems for future attention.

- A broadening of the university council to include representation from business and civic sectors to enhance the university's articulation with the society that supports it.

- The commissioning of an annual financial audit by a reputable independent auditing firm.

One way of moving down the path towards improved university/state relations may be through the preparation of updated university mission statements or strategic development plans (see Chapter 10). As a legitimate partner in the nation's higher education enterprise, government participation in the definition of a university mission statement would be appropriate. Through discussion of key questions—What kind of university do we need? What kind of university can we afford?—representatives of government and university are likely to gain mutual understanding of the concerns and constraints that condition their respective viewpoints. On the basis of this understanding, improved communication mechanisms for policy dialogue, budget allocation, and political emergencies might be established, and agreements on university autonomy and accountability eventually reached.

# 5

# *Progress and Potential for Financial Diversification*

In its assessment of university cost-effectiveness, the Association of African Universities (*1991, p. 87*) concludes: *"The continuing economic crisis in Africa makes it very unlikely that funding from government, which is the major source, will significantly improve. In fact, it is more likely that the value of these funds may dramatically drop in real terms. This situation may pose a more serious challenge to the capability of the universities to maintain the present level of quality of outputs, which are already under severe constraints. ...while government sources will still be critical, diversifying the institutions' sources of funding will give them greater flexibility to undertake necessary improvement measures. It is a challenge that requires the utmost attention of the universities."*

This statement accurately sums up the principal financial constraints of the African higher education sector. Economic output across the continent declined markedly during the 1980s. In consequence, national capacities to finance the education sector dropped accordingly. Although higher education was initially sheltered from this process, by the end of the decade it too had been forced to absorb the impact of sizeable budget reductions. Financial diversification has been accorded greater attention as a strategy for financial stabilization.

In this context, the World Bank commissioned a survey of progress achieved and potential remaining for financial diversification among 15 institutions of African higher education.[8] The Bank's 1988 policy paper had issued a strong call for diversification of the university funding base as part of an overall strategy to revitalize African higher education. The purpose of the survey, conducted in late 1991, was to determine what had been achieved during the intervening period, and to gauge the potential for additional gains.

The conclusions of the survey are not encouraging. Nevertheless, untapped opportunities are identified which could well generate incremental financial improvements, and documented cases of institutional initiative demonstrate what can be accomplished by commitment and ingenuity. This potential will only be realized, however, when appropriate incentives have been put in place to encourage and reward such initiatives.

---

8 R.D.D. Blair, "Progress and Potential for Financial Diversification among Selected African Universities," January 1992. The following discussion is based extensively on this report.

In general, the survey confirmed the very difficult conditions that prevail among African universities. They are inadequately financed, suffer from poor staff morale, and experience steady staff losses to the private sector, or to universities in other countries, which will increase as the "new" South Africa comes on line. Buildings, estates and equipment are poorly maintained, library resources are outdated, students confront both university authorities and governments, and the relationship between universities and governments is chaotic—particularly with regard to financial and funding issues. University officials, from South Africa's relatively well-endowed University of Witwatersrand to Zambia's Copperbelt University, refer to their situation as "battling to survive".

### *The Financial Relationship between Governments and Universities*

Financial relations between universities and their governments are turbulent. Although university budgets certainly offer opportunities for more efficient use, arbitrary governmental budget cutting—while not allowing universities to reduce their staff and requiring them to increase student in-takes—is a recipe for disaster. The uncertainty of government subventions is a principal impediment to more rational university planning (*Sawyerr 1991, p. 26*). A different financial relationship between governments and their universities is clearly necessary.

One pre-requisite for progress towards financial stability and improvement would appear to be a pact between the State and each university, which places the government's funding of the university on a rational and predictable basis. Given the wide range of national circumstances, it is not possible to offer a universal formula for such a pact. However, any such agreement should probably include:

- A mechanism for deciding what share of public resources can be devoted to higher education, and for linking this allocation to enrollments.
- Where appropriate, a progressive reallocation of state resources from student subsidies to academic programs.
- A process for placing university funding on a multi-year basis.
- A means of establishing fair unit costs for university training.
- A means of sharing the costs of higher education beyond the State.
- Incentives for efficiency and financial reform within universities, including the opportunity for them to retain any savings or income earned.

Movement towards similar arrangements in many developed countries suggests the feasibility of progress along these lines. While the solution arrived at will be different in each country, existing experience may prove instructive. Information available, particularly from Australia, Chile, the Netherlands and the United Kingdom, on how university/state financial relationships are being recast, should prove to be a valuable reference resource for Africa.

To create the consensus necessary to produce such a pact, a series of educational efforts directed at political leaders and policymakers may be required. The message should be that there is a better way to finance universities. An appropriate mix of positive and negative incentives can result in improved university performance and a better use of public resources. In the process, however, governments will have to grant universities greater autonomy as various

financial reforms produce improved accountability.

### *Private Universities*

Private universities are a potentially important way of diversifying the financial base of national higher education systems. They offer an alternative for expanding access to higher education without adding significantly to government costs. In Latin America, private universities have soaked up a substantial amount of student demand over the last 30 years. Between 1960 and 1970, private higher education enrollments jumped five-fold, almost doubling their share of total enrollments from 16.4 percent to 31.0 percent during the decade. From 1970 to 1985, private higher education enrollments quadrupled, but its share remained almost constant (32.6 percent) as public university enrollments increased at roughly the same rate (*Brunner 1990, p. 106*). As African governments feel heightening demand from rising numbers of secondary school graduates (the combined effect of population growth and increased access to education), they may wish to broaden their higher education systems and allow private universities to join government as partners in the production of skilled human resources.

At present, private universities are insignificant within Africa. Total private university enrolment on the continent is estimated at 6,000 students in some 30 private colleges and universities in seven Sub-Saharan countries (Kenya, Liberia, Madagascar, Niger, Rwanda, Zaire, Zimbabwe) (*Eisemon 1991, p. 9*). Much of this number is concentrated in Kenya (eleven private institutions with 2,000 students) and in Zaire (nine private colleges and universities). The inclusion of Sudan, with its three sizeable private and religious universities, raises this number by an additional 2,500 or so. Eisemon (*1991, p. 11*) notes that only three countries—Kenya, Nigeria and Zimbabwe—have developed provisions for the accreditation of private institutions and their evolution into autonomous universities. The development of private higher education in Africa, he suggests, has been severely constrained by difficult economic conditions, by the association of public universities with high quality education and access to modern sector employment, and by residual feelings from the colonial experience that private involvement exacerbates inequalities in education.

*Box 1. Daystar University*

> Daystar University is a small prospering private university in Nairobi, Kenya. Its 600 students are charged yearly fees of US$2,500 which cover 70 percent of the university's operating budget. It offers undergraduate degrees in accounting, business, communications, community development, education and religious studies. It operates on the basis of one, five and ten-year business plans and is very market- oriented. Major programs are organized as cost centers which employ computerized systems for tracking costs. Staff are paid less than at public universities, but they participate directly in shaping university policy through a strong staff association. Students routinely evaluate teaching staff, and these appraisals are taken seriously by management. Student scholarships are provided to those who need them in return for work contributions. Graduate placement is assisted by an active alumni association.

Private higher education in Africa is expensive to provide and costly to attend. A newly-established Catholic university in Cameroon, for example, charges roughly US$2,700 per year in tuition fees, room and board. While the unit costs of private universities may be lower than in their public counterparts, their cost structures are similar. Most private institutions are residential, and salaries must be competitive with those of public universities to attract and retain qualified staff. The students who can afford private higher education do not lack other educational choices. Private universities in both Anglophone and Francophone Africa compete with high-cost higher education in North America and Europe, and with low-cost universities in developing countries such as India (*Elsemon, 1991, p. 52*).

Where African governments have allowed private higher education institutions, they have done so in the belief that this can deflect student demand away from public institutions under growing financial pressures, while perhaps saving some foreign exchange. New private religious universities are planned or underway in Angola, Cameroon, Mozambique, Uganda and Zimbabwe. Yet private higher education does not absorb a significant portion of university enrollments in Africa, and this seems unlikely to change soon. As long as public higher education is provided by governments at little or no cost to the individual, and private higher education remains entirely self-supporting, private universities will continue to play a very minor role (*Elsemon, 1991, p. 55*).

In the longer-term, however, the Latin American example—where private universities have absorbed a sizeable share of sharply rising higher education demand—is likely to prompt public and private efforts to diversify Africa's higher education systems along similar lines. To do so, certain policy parameters governing private universities will need to be set. These include entry criteria for establishment, mechanisms for periodic review and accreditation, and the extent to which public finance will be used to foster quality in private universities.

### *Progress in University Financial Diversification*

It appears that African universities have made relatively little progress in diversifying their finances over the 1989-91 period. The World Bank survey indicates that governments provide an average 86 percent of annual recurrent budgets. The remainder comes from student fees, donors, investments and income-generating activities. The proportional contributions of these various sources show no discernible trend over the three years (see Table 7). If anything, the situation in Francophone universities is less positive from a diversification standpoint. In a review of financial strategies among these institutions, Diambomba (*1991, p. 27*) observes that private contributions are virtually non-existent, and that tuition fees are absurdly low.

University budgets are composed of contributions from the state, students and their families, donors, income-generating initiatives, private sector contributions, and investments.

Following the state, student contributions constitute the next most significant source of income. Only half of the 15 universities charge student fees (these data are difficult to interpret as definitions of fees deviate considerably). For those that do, fee revenue averaged roughly 10 percent. Wide individual variations can be observed. Fees contributed 28 percent of the annual budget for the University of Witwatersrand, up from 24 percent in 1989. Fees accounted for 13 and 14 percent of budgets in Botswana and Lesotho respectively, although these inputs showed a decline from higher levels

*Table 7. Sources of Annual Recurrent Budget*

| *University* | *St* | *Don* | *SF* | *Pvt* | *End* | *Inc* | *Inv* | *Oth* | *St* | *Don* | *SF* | *Pvt* | *End* | *Inc* | *Inv* | *Oth* | *St* | *Don* | *SF* | *Pvt* | *End* | *Inc* | *Inv* | *Oth* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Botswana | 73.8 | | 12.6 | | | | | 13.6 | 66.0 | 0.0 | 17.1 | | | | | 16.9 | 64.3 | 0.0 | 18.5 | | | | | 17.2 |
| Ghana | | | | | | | | | 70.0 | | 1.2 | | 0.1 | 20.0 | | 8.0 | 70.0 | | 1.2 | | 0.1 | 20.0 | | 8.0 |
| Kenyatta | 100 | | | | | | | | 100 | | | | | | | | 100 | | | | | | | |
| J. Kenyatta | | | | | | | | | 100 | | | | | | | | 100 | | | | | | | |
| Lesotho | 75.0 | | 14.0 | | | 0.0 | | 11.0 | 68.0 | | 14.0 | | | 0.5 | | 17.5 | 70.0 | | 21.0 | | | 0.1 | | |
| Malawi | 87.3 | | 4.0 | | | 4.5 | 2.9 | 0.3 | 88.4 | | 2.9 | | | 4.6 | 2.7 | 0.2 | 88.7 | | 3.3 | | | 3.3 | 2.8 | 0.4 |
| Ibadan | | | | | | | | | 72.0 | | 5.3 | | | 3.9 | 1.7 | | 85.0 | | 3.3 | | | 4.8 | 3.0 | |
| Nsukka | 92.0 | | 2.0 | | | | 1.0 | 5.0 | 93.0 | | 2.0 | | | | 1.0 | 4.0 | 91.0 | | 3.0 | | | | 1.0 | 5.0 |
| Obafemi Awolowo | 95.4 | | | | | | 4.6 | | 95.2 | | | | | | 4.8 | | 95.3 | | | | | | 4.7 | |
| Swaziland | 85.0 | 5.0 | | | | 1.0 | 9.0 | | 90.0 | 5.0 | | | | 1.0 | 4.0 | | | | | | | | | |
| Dar es Salaam[a] | | | | | | | | | | | | | | | | | | | | | | | | |
| Makerere | 90.0 | 7.0 | 2.0 | 0.5 | | 0.5 | | | 87.0 | 10.0 | 2.0 | 0.5 | | 0.5 | | | 82.0 | 10.0 | 5.0 | 2.0 | | 1.0 | | |
| Copperbelt | 90.0 | | 8.0 | | | 2.0 | | | 71.0 | | 25.0 | | | 4.0 | | | 82.0 | | 14.0 | | | 4.0 | | |
| Zimbabwe | 90.0 | | 6.0 | | | | 4.0 | 1.0 | 88.0 | | 7.0 | | | | 4.0 | 1.0 | 86.0 | | 8.0 | | | | 5.0 | 1.0 |
| Witwater. | 68.0 | | 27.9 | | | | 2.8 | 1.3 | 70.6 | | 24.5 | | | | 3.5 | 1.4 | 70.3 | | 23.8 | | | | 4.4 | 1.5 |
| Average | 86.0 | 6.0 | 9.6 | 0.5 | | 1.6 | 4.1 | 5.4 | 82.8 | 5.0 | 10.1 | 0.5 | 0.1 | 4.9 | 3.1 | 7.0 | 83.4 | 5.0 | 10.1 | 2.0 | 0.1 | 5.5 | 3.5 | 5.5 |

*Notes:* St = State; Don = Donors; SF = Students/families; Pvt = Private sector; End = Endowments; Inc = Income generating activities; Inv = Investments; Other = Other sources

a. Data not supplied

in 1989. Donor support for recurrent budgets has been insignificant, as is the private sector and endowment income. Income-generation is reported by only half the universities, and it constitutes less than 5 percent of budget—except at the University of Ghana which reports 20 percent.

*Cost Recovery*

Student Fees: Several universities receive significant income from student fees. Because of the longstanding traditions of free university education in most countries, this issue is sensitive and potentially explosive. Some universities prefer indirect methods of obtaining fees from students. These may include registration fees, brokerage fees, insurance coverage, library fees, laboratory fees, and student activities fees. Because these charges are indirect (and as long as they are not labelled as regular tuition), students are generally more willing to pay. In many cases, such indirect fees may comprise more than 50 percent of fee revenue (*Tarpeh 1991, p. 3*).

Tuition fees remain a subject of considerable potential and challenge. It is characterized by a great deal of confusion in many institutions, and by a yawning gap between policy and practice in others. The situation is complicated by the fact that in several countries new systems of student support and fees are under consideration. There is a general awareness that the State can no longer be counted on to fully fund the universities, and that the most obvious alternative source of finance is the group that directly benefits from university education.

The arguments in favor of student tuition fees are straightforward:

- They are a means of increasing university funding and linking resource levels with enrollments.
- They will progressively make universities more responsive to student needs, by instilling the concept of students as clients, with consequent improvements in efficiency and quality (*Psacharopoulos 1990, p. 160*).
- They will provide an incentive to students to complete their study programs more quickly in order to reduce costs, and to avoid action that might disrupt their education or reduce the quality of education they are receiving.

Among the 15 universities surveyed, only Ghana and Malawi do not seem to be contemplating some form of student tuition charges. Even in Tanzania, a policy change in this direction seems likely. Less well established is the need for the fee structure to be clear, and for the student to make this contribution directly. In Kenya and Zimbabwe, the fee may either be covered in some way by the State.

The universities of Sierra Leone and Liberia have a longstanding tradition of charging fees for all university services, including tuition. In Sierra Leone, all first-year students are required to pay tuition fees. Upon successful completion of the first year, they are eligible for government scholarships awarded on the basis of academic performance and financial need.

Ideally, tuition fees should cover a defined portion of the full economic cost of training, with the state covering the difference. To accomplish this, universities must know exactly what these costs are. The calculation of this full-cost amount should exclude the costs of university research (to be covered separately by

the State, donors and private sector), the costs of new capital equipment, and the costs of non-academic services such as residences and food service which should operate on a separate cost-recovery basis. The full-cost figure should include all other recurrent operational costs, including maintenance and depreciation. These cost figures should then be updated annually and be monitored by management to improve cost-efficiency.

In the survey report, an attempt was made to estimate what this full-cost might be in the responding institutions, and to compare it against fees currently charged (see Table 8). Except for the University of Witwatersrand, which recovers roughly one-third of its estimated costs, the actual fee charged is very low in proportion to the estimated full-cost fee. It averages around 10 percent in the humanities, somewhat less in the sciences, and is inconsequential in the medical sciences. By comparison, private tertiary institutions in the United States obtain 38 percent of their revenues through student tuition and fees (*American Council on Education 1990*).

As part of the financial pact between governments and universities, the key institutional actors in each country might draw up a phased plan to introduce tuition fees, with the goal of achieving within five years a fee level equal to at least 20 percent of the real cost. This suggestion assumes that universities will become better managed and more efficient, and that their national economies will grow as the result of current economic reform efforts. The evidence from the universities of Witwatersrand and Cape Town, where fee income increased from 18 percent to 27 percent over the past five years, indicates what can be accomplished in a reasonably developed economy. But even in the best circumstance, such charges must be viewed as only part of a composite financing strategy.

Within this financial pact, the State might then agree to fund—through a block grant to each institution, or through a formula mix of grants and loans in support of students —whatever number and mix of students the national economy could afford, at a cost equivalent to the amount of the full-cost tuition fee not recovered directly from the student. Unless offset by a financial assistance or loan scheme for students, this might result in an initial reduction in student numbers. However, it would place higher education systems on a more stable financial footing. It would provide guarantees for minimum standards of quality in public higher education, and create the basis for significant expansion in the provision of private higher education.

The current Kenyan example may prove instructive here. In 1991 the Kenyan government introduced a significant tuition fee of roughly US$200 (needy students will receive government grants to cover these charges) together with almost full-cost recovery charges for student accommodation and meals (largely provided through a government loan to each student). Details of this approach are still being worked out, and it is not yet clear how the program will be implemented. The scheme is complex, but it introduces an interesting mix of student cost-sharing and government grants and loans to students.

One challenge which accompanies the introduction of fees is how to buffer the economically disadvantaged student against these additional costs. Scholarships or loans are the most common method, although experience to date with loan programs—especially in Africa—has not been very encouraging (*Albrecht and Ziderman 1991*). One administrative difficulty associated with scholarships and loans is that the means test commonly used in the Western world is generally not effective in Africa. This is due to the

*Table 8. Comparison of the full cost/economic fee and the actual fee charged (US$), with the actual fee shown as a percentage of the full cost fee.*

| University | Undergraduate Tuition Fees | | | | | | | | | Accommodation and Catering Fees | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Humanities | | | Sciences | | | Medicine | | | | | |
| | Econ | Actual | % | Econ | Actual | % | Econ | Actual | % | Econ | Actual | % |
| Botswana | 9102 | 971 | 11 | 12623 | 1117 | 9 | | | | 1938 | 971 | 50 |
| Ghana | 1541 | 0 | 0 | 1541 | 0 | 0 | 6302 | 0 | 0 | ? | ? | ? |
| Kenyatta (2) | 1342 | 207 | 15 | 1054 | 207 | 20 | | | | 390 | 302 | 77 |
| J. Kenyatta (2) | | | | 1182 | 207 | 18 | | | | 309 | 0 | 0 |
| Lesotho | 4677 | 523 | 11 | 4546 | 523 | 11 | | | | 180 | 348 | 194 |
| Malawi | 3693 | 70 | 2 | 3727 | 70 | 2 | 4961 | 70 | 1 | 383 | 0 | 0 |
| Ibadan (4) | 605 | 0 | 0 | 611 | 0 | 0 | 948 | 0 | 0 | 32 | 9 | 29 |
| Nsukka (4)(5) | | | | | | | | | | | | |
| Obafemi Awolowo (4) | 499 | 0 | 0 | 540 | 0 | 0 | 684 | 0 | 0 | 5 | 9 | 189 |
| Swaziland | 2942 | 488 | 17 | 5258 | 523 | 10 | | | | 1153 | 1045 | 91 |
| Dar es Salaam (1) | 2785 | 1528 | 55 | 2977 | 1528 | 51 | | | | 154 | 360 | 234 |
| Makerere (3) | 1048 | 112 | 11 | 1025 | 150 | 15 | 1285 | 150 | 12 | 207 | 117 | 57 |
| Copperbelt | 1204 | 116 | 10 | 1648 | 145 | 9 | | | | 108 | 18 | 17 |
| Zimbabwe | 1977 | 179 | 9 | 4122 | 205 | 5 | 7835 | 223 | 3 | 1070 | 725 | 68 |
| Witwatersrand | 4704 | 1742 | 37 | 6240 | 1742 | 28 | 5988 | 2091 | 35 | 1713 | 1589 | 93 |

*Notes:* Econ = full cost/economic fee; Actual = actual fee charged by institution; (1) Fees not paid except by a handful of self-sponsored students; (2) Tuition fees to be introduced with effect from 1991/92 academic year; (3) Fees paid by the State; (4) Tuition fees charged by postgraduate students only; and (5) No fee data supplied, no catering service provided

The full cost/economic undergraduate tuition fee was calculated by:

- Aggregating the recurrent budgets for Faculties within broad discipline areas of Humanities (Arts, Commerce, Education, Law, Social Studies, etc.), Sciences (Agriculture, Engineering, Technology, Science, etc.), and Medicine (Medicine, Pharmacy, Nursing, Veterinary Medicine).
- dividing the total broad discipline budget by the number of students in the discipline.
- adding an amount reached by dividing the total non-academic recurrent budget (less the budget for student accommodation and catering where given) by the total number of students.

The full cost/economic accommodation and catering (residence) fee calculated by dividing the total recurrent budget given for student housing and catering by the total number of resident students.

capacity of students to generate support through extended family and kinship networks. One promising alternative has emerged in Uganda, where a Needy Students Work Scheme has been instituted (*Senteza Kajubi 1992, p. 439*). Students self-select under this program through voluntary application for remunerated community jobs. The fact that work must be performed to earn benefits ensures that only the truly needy will be assisted by the program.

Another constraint has frequently been the absence of an effective institutional mechanism for collecting loan payments (*Chuta 1992*). In Ghana, this shortcoming has been addressed by having a university student loan program managed by the Social Security and National Insurance Trust, which deducts loan repayments from social security contributions (*Kotey 1992*).

Fee structures may also be managed to create differential incentives in support of institutional objectives. In Mozambique, students may receive full or partial exemption from fees according to their academic performance. Sliding fees may also be used to steer students towards high priority areas of study.

Student Support Services: Significant portions of many higher education budgets are consumed by providing university students with free room and board. In Uganda, for example, 30 percent of Makerere University's limited resources are spent on student meals and accommodations. The problem is more severe in Francophone countries. Much of the government's higher education budget are used for student living allowances in Niger (65 percent), Cote D'Ivoire (55 percent), Burkina Faso (54 percent), and Benin (48 percent) (*World Bank 1986, p. 11*). In Senegal, Cheikh Anta Diop University spends an average US$1,708 per student on non-academic support services, but just US$37 per student for educational materials and supplies (*Elsemon and Salmi 1992*). In general, Anglophone governments spend 12 percent of their higher education budgets on student support; Francophone governments spend 55 percent (*Orivel 1988, p. 8*).

Government subventions for university student maintenance constitute a serious precedent directly related to educational quality. Under the budgetary stagnation that prevails in many countries, staff salaries may be frozen while the general costs of food continue to rise as the result of inflation. The result is that student feeding consumes a larger and larger share of the budget, leaving less and less for academic needs.

The view that the costs of student housing and meals should be recovered in full from the students is increasingly accepted in Africa—more so in Anglophone than in Francophone countries. As this viewpoint is put into practice, residence halls and dining facilities will be expected to operate on a break-even basis, and will cease to receive government subsidies. A number of universities are charging fees which recover some portion of accommodation and meals expenses (see Table 9). In many cases, however, these fees are covered by government scholarships to students with the result that little real cost-sharing occurs.

Universities wishing to diversify their financial base by increasing cost-recovery for student meals and accommodation might do so through a phased strategy of implementation. For example, over a five-year period cost-recovery might be initially announced and then applied only to new incoming students until the entire student body is subject to these fees. As necessary, students might be assisted to meet these fees through a combination of loans and grants. Through just such a gradualist approach, Nigerian universities are establishing cost-recovery in

non-academic services as a normal part of the higher education enterprise (*Sutherland-Addy 1992, p. 23*).

Student residential and dining facilities generally constitute one of the most promising areas in which to achieve greater management efficiency and cost reduction. These operations frequently account for a very large proportion of a university's non-academic staff. They also tend to have major problems of financial control and quality supervision. The University of Botswana provides a positive example of how these problems can be addressed. It has recently privatized its student meal service, and introduced a phased system by which students become progressively more responsible for cleaning their own rooms. Considerable cost savings are expected.

Where students are crowded into dormitory rooms, lack functioning sanitary facilities, and subsist on poor quality food, the introduction of cost recovery may spark strong reaction. Such changes need to be linked with initial investments to improve the quality of meals and accommodations so that increased fees are justified. Universities must also enjoy the administrative autonomy to receive and use such fees to maintain standards of service.

Staff Housing: Most African universities provide housing to their academic staff, and occasionally to other employees. Some universities attempt to house all eligible staff; others offer this benefit to a third or more of their staff. Only a few universities (for example, Zimbabwe) have relatively restricted housing benefits. Although virtually all universities charge rent, in many cases the rental amount represents only a small portion of the full cost of operating and maintaining these houses. Consequently, rents constitute a low proportion of staff salaries compared to prevailing norms, and are heavily subsidized when compared to open market rental levels (see Table 10). Since the combination of rapid population growth and economic stagnation has created sizeable housing deficits in many African countries, providing housing to university staff is an important mechanism for staff retention as academic salaries have deteriorated over the past decade. But university staff housing has frequently proved difficult to manage. When staff reach retirement or move from full to part-time employment, they often refuse to give up their housing. Universities are consequently faced with the challenge of building or renting new houses when new staff members are hired.

While staff housing may represent an important in-kind salary supplement and staff retention incentive, it has also become a serious and largely hidden drain on limited university finances. And because financial resources are so scarce, the maintenance of staff housing is often totally inadequate. As a result, university housing properties are deteriorating assets. Ideally, university staff should receive a realistic salary that would allow them to pay a market equivalent rent (cost recovery plus maintenance), perhaps with the option of later purchase. This seems unlikely to occur in the near term.

Where full cost recovery rents are not possible, universities are urged to earmark a portion of rental income currently received for housing maintenance, repair and management. Maintenance and repair costs are normally about 2 percent of the replacement cost for the housing unit. Property management could be contracted out to a specialized firm for around 5 percent of the monthly rent under normal market conditions. It is essential to maintain university housing stock to protect this investment and extend the life of this asset. Only by making

## Table 9. Fee Income as a Percentage of Recurrent Budget Expenditure
(percent)

| University | Tuition 1991 | Tuition 1990 | Tuition 1989 | Accommodation and dining 1991 | Accommodation and dining 1990 | Accommodation and dining 1989 |
|---|---|---|---|---|---|---|
| Botswana | 15 | 16 | 21 | 48 | 53 | 62 |
| Ghana | 0 | 0 | 0 | 0 | 0 | 0 |
| Kenyatta | 17 | 17 | 0 | 100 | 100 | 87 |
| J. Kenyatta | 0 | 0 | 0 | 0 | 0 | 0 |
| Lesotho | 12 | 13 | 21 | 86 | 76 | 82 |
| Malawi | 2 | 2 | 2 | 0 | 0 | 0 |
| Ibadan | 4 | 5 | 3 | 29 | 36 | 75 |
| Obafemi Awolowo[a] | 1 | 0 | 1 | ? | ? | ? |
| Nsukka[b] | 0 | 0 | 0 | ? | 554 | 472 |
| Swaziland | 11 | 12 | 13 | 93 | 96 | 93 |
| Dar es Salaam | 0 | 10 | 16 | 0 | 0 | 0 |
| Makerere | 11 | ? | ? | 57 | 57 | 57 |
| Copperbelt | 9 | 24 | 22 | 18 | 30 | 75 |
| Zimbabwe | 6 | 7 | 8 | 69 | 79 | 75 |
| Witwatersrand | 29 | 25 | 25 | 93 | ? | ? |

a. No budget was shown for student housing and catering, although a fee income was stated for these.
b. Either fee income for student accommodation was overstated, or (more likely) expenditure was considerably understated.

## Table 10. Staff Housing

| University | Staff Housed | Rent Charged | Utilit. Charged Yes/No | Capital Cost Recovered by Rent | Capital Cost Recovered by Utilities | Cost Recovery Yes/No | Rent as percentage of average Academic Salaries | Rent as percentage of average Market Rents | FCR Considered Yes/No | Other Assistance Yes/No |
|---|---|---|---|---|---|---|---|---|---|---|
| Botswana | 100 | x | Y | 35 | 100 | Y | 15 | 20 | Y | Y |
| Ghana | 50 | x | Y | min | min | N | 7 | ? | Y | Y |
| Kenyatta | 5 | x | Y | ? | 100 | Y | 4 | 44 | Y | Y |
| J. Kenyatta | ? | x | Y | 100 | 100 | Y | 5 | ? | Y | Y |
| Lesotho | 60 | x | Y | 15 | 100 | N | 5 | 33 | N | Y |
| Malawi | 100 | x | Y | 6 | 100 | N | 10 | 6 | N | N |
| Ibadan | 32 | x | N | 8 | 0 | N | 8 | 54 | N | N |
| Obafemi Awol. | 40 | x | Y | 10 | 80 | N | 8 | ? | N | N |
| Nsukka | 44 | x | Y | ? | ? | ? | 39 | 20 | N | N |
| Swaziland | 36 | x | Y | 20 | ? | N | 3 | 20 | N | Y |
| Dar es Salaam | 90 | x | Y | 3 | 100 | N | 10 | 3 | N | Y |
| Makerere | 50 | x | Y | 98 | 98 | N | 5 | 30 | N | N |
| Copperbelt | 90 | x | Y | ? | 100 | N | 5 | 3 | N | Y |
| Zimbabwe | 5 | x | Y | 45 | 100 | N | 15 | 45 | N | Y |
| Witwatersrand | 1 | x | Y | 50 | 50 | Y | 15 | 50 | N | N |

*Notes:* F.C.R. considered = Full cost recovery rent considered? Other assistance = Other housing assistance provided to staff?



BEST COPY AVAILABLE

specific financial arrangements for this, and by including operating expenses associated with property management in the university's recurrent budget, will this be achieved.

University Services: To what extent do universities operate central services in ways that permit expenditure monitoring and cost recovery? Since some of the academic service functions of a university can be run on a quasi-commercial basis, it should be relatively easy to define the expenditure and income flows for such activities and then to charge both internal and external users for these services. The World Bank survey sought to document the extent to which such businesslike practice has been adopted by African universities. Among the services surveyed were photocopying, printing, telephone use, computer use, transport, equipment maintenance, municipal services, security and food services. Responses indicated a wide variety of practice, but no discernible pattern. Printing was the activity most likely to be managed on a full cost recovery basis; security, municipal services and equipment maintenance were the least likely to be provided in return for payment.

Overall, very few universities charge for their general services. However, several institutions are considering the introduction of cost recovery for central services such as printing and equipment maintenance. In the most cases this will likely mean that one part of the university pays another, but this has the advantage of increasing the user's awareness of the cost of services. Over time, this might lead to greater efficiency in the use of university resources, particularly where the internal user is able to choose between university-provided services and those available externally.

University services are rarely marketed to the public, although facilities rental is more common. Only two institutions—Copperbelt University in Zambia and Witwatersrand in South Africa—reported any income from the external sale of services. Neither institution had developed the external use of central services into a "business" with profit as a motive. In many countries, universities are comparatively well endowed in facilities and equipment relative to the rest of society. If associated services were to be structured as cost centers, they could be marketed to the public to capitalize on the university's comparative advantage. Any "profit" generated by external use would constitute new income and allow that university unit to operate on a self-sustaining basis.

### *Income Enhancing Alternatives*

Externally Funded and Contract Research: It is generally accepted that the research output of African universities has been inadequate. One cause has been insufficient research funding. The survey indicates that most universities are able to allocate only a very small portion of their overall budget to research, and external sources of funding for research activity are of considerable importance, representing one of the few areas of significant diversification in the funding of university activities (see Table 11).

External sources contribute over 75 percent of research expenditure in most of the universities surveyed. In almost all cases, international donor agencies are the main source, with university linkage programs a significant secondary contributor in several instances. Only in South Africa does the private sector assume a significant role in funding research. For the rest of Africa, industrial contributions are unlikely to constitute much funding potential until economic improvement occurs. But even in the most developed countries, industry covers only a small fraction of university research expenditures (*Thulstrup 1992, p. 19*).

*Table 11. Research Expenditure as a Percentage of Total Recurrent and Capital Budget*

| University | University Funded | | | Externally Funded | | |
|---|---|---|---|---|---|---|
| | *1991* | *1990* | *1989* | *1991* | *1990* | *1989* |
| Botswana | 1.5 | 1.3 | 1.6 | - | 4.0 | 8.9 |
| Ghana | - | - | - | - | - | - |
| Kenyatta | - | - | - | 0.6 | 0.1 | 0.3 |
| J. Kenyatta | 0.9 | 0.9 | - | - | - | - |
| Lesotho | - | - | - | - | 0.8 | - |
| Malawi | 0.2 | 0.2 | 0.2 | 2.1 | 2.6 | 2.2 |
| Ibadan[a] | 4.2 | 4.3 | 3.9 | - | - | - |
| Obafemi Awolowo | 6.5 | 3.9 | 6.3 | 3.5 | 1.7 | 6.8 |
| Nsukka[a] | - | 3.0 | 3.0 | - | 3.3 | 2.6 |
| Swaziland | - | - | - | 0.8 | 0.7 | 0.5 |
| Dar es Salaam | - | - | - | 0.7 | 0.8 | 1.7 |
| Makerere | 0.7 | 1.7 | 0.6 | 2.8 | 7.1 | 2.7 |
| Copperbelt | 0.5 | - | - | - | - | - |
| Zimbabwe | 3.5 | 2.6 | 2.2 | - | 8.2 | 11.9 |
| Witwatersrand | 4.6 | 4.9 | 4.7 | 16.5 | 18.5 | 16.0 |

a. No capital expenditure reported

Although the external funding picture for research is positive, survey information on the management of research is less encouraging. Less than half of the surveyed institutions levy an institutional management charge on external research funding, perhaps because they are unable to provide researchers with appropriate services in return. Only half undertake contract research, and only two of these institutions claim to do so on a full cost recovery basis. Just half of the responding universities have a research management plan. In most cases, they were unable to determine the portion of external research funding that could be regarded as contract research, nor could they indicate the sources of contract research where.

University respondents were generally optimistic concerning the potential for growth in their volume of contract research. Shortages of staff and the absence of clear policies and financial procedures were offered as the principal inhibiting factors. Because most African universities —when compared to other national institutions—are relatively well endowed in human resources, equipment, and access to information, contract research seems to offer an area of potential expansion. In the short run, primary clients are likely to be governments and donors. In the longer term, as the private sector grows, many small and medium-sized indigenous firms will require research services, and universities are the obvious source. Universities can help to develop this potential by publicly disseminating information on staff and institutional capabilities, creating agile yet accountable financial systems for managing such activities, and reforming terms of service to facilitate staff participation in these activities. University-affiliated research foundations in Latin America, Europe and the United States have been established for precisely this purpose, and African universities might usefully adapt these experiences to their own needs.

To tap the income potential of contract research, African universities are encouraged to ensure that the following essential requirements are put in place:

- A research management plan (SAREC had developed considerable experience in working with universities on this).

- A financial system which enables them to price all types of research accurately, and which ensures that institutional overheads are recovered (the existing practice of charging a flat fee of between 5 and 15 percent is inappropriate).

External Funding of Other University Activities: External funding is a significant source of support for other university activities, including staff development programs, library acquisitions, professional conference participation by staff, and the provision of equipment and vehicles. Here again, university record-keeping is generally not sufficiently well organized to permit the monitoring and assessment of these activities. In the World Bank survey, most institutions were not able to estimate even the approximate level of support that they received from donors for staff training, libraries or equipment purchases.

The reasons for university difficulties in defining the levels of their external support are readily understood. Such support is often retained in hard currency outside the country, and is often administered by outside organizations on behalf of the institution. Nevertheless, it is important that universities establish the means to identify and quantify this support accurately. Such data are vital to their arguments for greater rationality in State funding, as they document universities achievements in obtaining non-governmental support, so reducing their financial demands on the State. Universities could strengthen their case in budget discussions with government by generating hard data that show the progress they are making in financial diversification.

*Box 2. Financial Diversification at the University of Sierra Leone*

The University of Sierra Leone has taken creative steps in the effort to broaden its financial base. A Department of Commercial and Industrial Enterprises has been established, which has set up a limited liability company to conduct business in selected areas, and to promote joint venture activities. Another unit, University Research and Development Services, promotes consultancies and contract research for university staff. In 1991, it produced gross revenues of roughly US$142,000. A Forum for Science, Technology and Arts for Development (FORSTAD) has recently been launched as a consultative mechanism with the private sector for the joint definition of research priorities, curriculum content, and graduate output needs, and to generate funding for new course development and short term professional training. A University Development Fund and its secretariat serve as a vehicle for fund-raising. These funds have been given to departments to meet costs which cannot be funded by the University's central funds. At the same time, administrative procedures were modified to reduce waste, improve inventory control and increase internal accountability. Student catering was privatized in one of the constituent colleges and subsidies limited in other colleges with smaller student numbers. Insurance, clearing and forwarding services were transferred to the university company. Tuition fees were revised upwards and other user charges instituted so that fees now contribute 15 percent of the real student cost.

Consultancy Services: The development of institutional consultancy services to generate untied revenue for universities is a sound concept in principle. However, existing experience, when combined with the survey results, is sobering. It may be that the potential for income-generation on the basis of university consultancy services has been overstated.

Only 3 of the 15 universities surveyed possess an institutional structure, such as a university consulting office, dedicated to the pursuit of consulting work. The University of Ibadan owns shares in a limited liability company. The National University of Lesotho has reportedly put in place the necessary elements, including a useful statement on staff consultancy policy, to operationalize institutional consulting. The recently established Bureau of Industrial Cooperation at the University of Dar es Salaam's Faculty of Engineering has channeled a number of consultancies and service activities to staff members through a structure which negotiates contract terms and provides guarantees of quality and timely completion. The University of Ghana/Legon established a consultancy unit in 1990 and reported a profit of 9 percent on total earnings of US$22,700. The university's written description of the policies and organization of its consulting center provides a useful reference for other universities to consider in planning their own initiatives.

In general, it appears that outside engineering, economics and certain science disciplines, most academic staff have limited involvement in university-based consulting. At the same time, a fairly high proportion of African academics are involved in personal consultancy activities. Unless the consultancy work requires certain specialized types of institutional support or equipment that only a university can provide, it may not be in the financial interest of either the consultant or the employing agency to involve the university in this arrangement. Given the growth of these activities as academic staff struggle to supplement their declining salaries, and the associated potential for university resources to be used in support of these individual activities, the development of university policy and procedure governing such work is needed to clarify the obligations and responsibilities of all parties, and to reduce the possibilities for conflict of interest. Such regulations should define the minimal academic obligations of the faculty member, and provide a transparent agreement on the share of the consultancy fee which would go to the individual, his or her department, and the university as a whole.

A number of problems have characterized the efforts of African universities to develop consultancy services. Universities tend to be slow in responding to business opportunities. They may wish to exercise excessive control over the consultancy enterprise, so stifling its initiative. Universities may attempt to appropriate too large a share of the income, thus dampening individual incentives to participate. Often, it may be difficult for universities to persuade their staff to work through the institutional consultancy unit as current arrangements (in which university facilities are often used at no cost) may be individually more advantageous. Universities may experience difficulties in convincing clients to use the unit instead of contracting directly with individual staff, as it is in the economic interests of both parties to exclude university participation. Finally, most universities lack the required entrepreneurial and management skills to turn their consultancy units into viable enterprises. In all cases, universities should carefully survey the market for consultancy activities before they get involved to ensure that there is sufficient demand to warrant the effort.

For university consultancy services to become economically viable activities, several conditions

must be met. First, the national economy must be sufficiently dynamic to generate both clients and needs for the university's consulting services. Second, the university must possess a core group of quality staff who are marketable as consultants. High-quality support staff are essential. The unit must be managed by an entrepreneur with initiative, organization and marketing skills. Where this is lacking, joint ventures or sub-contract arrangements with private consulting firms may be a way forward. The unit must also be able to ensure that a good product is delivered on time. Individual academic consultants must be adequately rewarded to gain their continued participation.

University consulting may be one activity where donor financial assistance could prove detrimental. Donor subsidies for university consultancy units may mask the economic realities of associated costs, stunt the development of necessary business skills among staff, and create unfair competition for private consulting firms. However, donor assistance in exposing university staff to viable models for the organization of consultancy activities, and in providing technical assistance for the initial design of consultancy units would be a useful contribution.

Continuing Education Programs: The provision of training to the larger community in which they are located, rather than exclusively to the university student population, is an obvious way in which universities can combine community service with income generation. Continuing education is one field in which universities hold a genuine comparative advantage in most countries. They possess the scarce technical resources, experience in organizing training programs, classroom space and related infrastructure necessary for such undertakings. In countries where universities have been slow to capitalize on their strengths in the teaching field, they now have to compete with private training firms which have appeared in the market place.

The World Bank survey suggests that most universities are active in continuing education. However, the information provided is sketchy at best. Financial arrangements are unclear. Understanding the fee structures is difficult, and estimates of income generated are not readily available. Limited evidence from Botswana, Nigeria and South Africa suggests that the potential to produce income is real, but that to date it has been inconsequential compared to total university expenditure. Most universities report charging reasonably realistic fees based on full cost recovery, and ensuring that academic staff receive salary supplements for their efforts. The most common continuing education course offerings were in business, accounting and computer skills. Lacking more complete information, however, a meaningful assessment of continuing professional education as a viable economic pursuit for universities still remains to be carried out.

Business Enterprise: A number of universities operate "businesses" which do not appear to develop naturally from the university. These include garages, hotels, grinding mills and bakeries. Frequently, these activities were initiated to meet a need within the university that was not being met by the private sector. In virtually all cases, little or no attempt is made to determine whether these activities generate a profit, or even cover their costs (*Mbaflorgu 1991*). Data on these operations are rarely available. A recent case study of two unsuccessful income generation projects at Addis Ababa University provides eloquent testimony to university shortcomings in launching business ventures (*Klnfu 1991*).

*Box 3. Financial Diversification at Jomo Kenyatta University College of Agriculture and Technology*

Jomo Kenyatta University College of Agriculture and Technology was founded a decade ago in Kenya. It grants degrees and diplomas scientific and technological fields, including agricultural engineering, food processing, nutrition, horticulture, biotechnology, and computer science. With 3,500 students, it has managed to expand and strengthen its programs during a period when many of Kenya's higher education institutions have been challenged to maintain quality. This success is due in part to effective cost control through contracting with external firms for many university services. It has generated significant income through contract training, part-time studies, and marketing the University's physical and instructional assets. Among the more innovative income generating activities is the production of small tractors and roto-tillers designed by University staff and manufactured, assembled and marketed by the informal sector.

In spite of a generally questionable track record in income generation, universities continue to commit their scarce resources to such undertakings. Universities considering business ventures are strongly encouraged to conduct a hard-headed feasibility study before start-up, and to ensure that these are established as separate cost centers with appropriate mechanisms to document costs, calculate profits, and periodically review performance.

Study Abroad Programs: These programs provide opportunities for foreign students to obtain African experience by undertaking non-degree study at an African university. The foreign students receive credit for these studies from their home institutions. These programs are big business in the United States, with destinations in Europe, Australia and South America preferred. Yet there are indications of growing interest in establishing collaborative arrangements with African universities, with associated possibilities for them to market their facilities on a profit-making basis. The universities of Ghana, Dar es Salaam, Zimbabwe and Witwatersrand currently participate in such exchange programs. Often, the foreign institution pays the fees of the African university into a special foreign exchange account which is then used to cover the staff development costs of African academics pursuing graduate study at that institution.

While these arrangements are appealing, they seem to have limited potential in many countries. The political environment and the physical conditions of many institutions are not generally attractive, and do not compete well with other parts of the world. Botswana and Zimbabwe in Anglophone Africa, and Senegal and Cote D'Ivoire in the Francophone region are general exceptions now, and South Africa will be another eventually.

Renting of Facilities/Conferences: One of the more obvious ways for African universities to increase their incomes is by making their teaching, accommodation and restaurant facilities available for hire by the general public, particularly for conferences, exhibitions or conventions. Evidence from more developed countries confirms that these activities can produce significant income. Although these physical facilities have deteriorated on many campuses and have become less attractive, they still represent an area of comparative advantage. Similar facilities, out-

side of prestigious and comparatively expensive national conference centers, are generally not available.

All the surveyed universities make their facilities available for outside hire. All charge fees for this service, but only three report the use of full cost-recovery policies. In general, the income produced by these arrangements constituted a negligible part of the university's total recurrent budget. The University of Malawi states that it covered 4 percent of its recurrent budget from facilities hire.

Foundations/Development Offices: The success of development offices in raising funds for universities in Europe, Asia and particularly the United States is well known. Many sophisticated and highly imaginative fund-raising operations exist, and often generate significant portions of the total budget at many universities. They represent genuine financial diversification and encourage the involvement of the wider community, particularly the business sector, in the funding of the institution.

Only two of the surveyed universities possess development offices: Makerere University in Uganda—whose office is not yet fully operational—and Witwatersrand in South Africa. Both are university-wide operations. Several other universities indicate a local potential for fund-raising. The success of such efforts will depend heavily on an institution's ability to marshall the requisite managerial and fund-raising skills. The wealth of experience available elsewhere, including in South Africa, might usefully inform these efforts. In the short term, the chief executive officers of African universities might profitably spend more of their time in fund-raising and related efforts to enhance the profile of their institutions in the public eye.

The value of systematic fund-raising is readily demonstrated. The University of Swaziland is building a new Faculty of Commerce with contributions received through the local Federation of Employers. In Zambia, Lungushi Investments will support the construction of a conference hall on the campus of Copperbelt University. In Zimbabwe, the new National University of Science and Technology raised US$70,000 for its endowment fund through an organized public appeal. The University of Dar es Salaam generated US$250,000 for its post-graduate fellowship fund from a broad-based campaign (*Mshigeni 1991, p. 20*). In Ghana, the Pioneer Tobacco Company supports an annual series of public service lectures at the University of Ghana/Legon. The newly-established University of Namibia is planning a national financial campaign to found an endowment fund.

Alumni Associations: Experience in the United States, the United Kingdom and Australia suggests that alumni associations can support their universities in a variety of ways. Although 11 of the 14 surveyed African universities have alumni organizations (often called graduates associations or convocations), only the universities of Obafemi Awolowo, Nsukka and Witwatersrand have active alumni groups which participate in the university's affairs and contribute some income to the institution. Alumni residing outside the country can also be a resource. The University of Ghana Medical Library receives seventeen journals through subscriptions donated by overseas alumni.

In the near term, the financial potential of alumni associations does not appear encouraging. Financial contributions from alumni will depend on national economic improvements and associated growth in personal incomes. However, universities might embark now on the impor-

tant step of "friend-raising", which must be done before any systematic fund-raising can be considered. Such efforts might also generate unexpected financial rewards, as the case of the Federal University of Technology in Yola, Nigeria which received a significant cash gift from publisher Alhaji M.K.O. Abiola. Moreover, this process might produce political dividends in the form of enhanced public understanding of university conditions and support for revitalization efforts.

### *An Enabling Institutional Environment*

If the types of financial diversification initiatives reviewed here are to succeed, universities will have to re-shape their institutional cultures. Increasingly, they will be called upon to become more efficient, more goal-driven, more enterprising, more ready to decentralize decision-making and accountability, and more aware of what their activities cost. The survey indicates that most universities have hardly begun to do this. Appreciation of the need to embrace these new values and attitudes is barely perceptible. Yet unless these changes occur, universities will not be capable of responding to broader economic reforms, of rationalizing their financial relationships with the State, and ultimately, of surviving as credible institutions.

The major incentive for change is that, by doing so, universities will diversify their funding base and achieve greater control over their finances. This will inevitably increase their autonomy with regard to government, and produce more stable institutional conditions. The case of Chile is instructive. Following financial reform of its higher education system during the 1970s, Chilean universities began to charge significant student fees. Their cost recovery exceeds 25 percent of total income, or about 60 percent of instructional unit cost when expenses for research, services and dissemination are deducted (*Schiefelbein 1990, p. 22*). When economic difficulties forced a reduction in government's support for higher education during the 1980s, these alternative economic sources provided a financial cushion that helped the system to avoid a fiscal crisis.

A key consideration for the restructuring of financial management is to ensure that financial allocation decisions and accountability for these decisions coincide. To this end, university activities could be organized on a cost-center basis (*Sawyerr and Djangmah 1991, p. 11*). In most cases, the survey indicated that university financial records were not maintained in such a way that activity and expenditure could be directly related, or expenditure matched against income. The case study of two unsuccessful income-generation experiences at Addis Ababa University provides an excellent analysis of such shortcomings (*Kinfu 1991*).

Often overlooked in discussions of attitude change is the role of students. In Africa, students are a uniquely privileged class, and they expect privileged treatment. If university reform is to succeed, and the proposed state/university financial pact is to work, students will have to acknowledge the need for change, modify their perception of a university education and what it entails, and become constructive partners in the reform process.

### *Conclusions*

In general, little progress in diversifying the sources of higher education funding has been achieved over the past three years. Financial diversification remains an important goal, however, because it contributes to institutional stability. In the effort to encourage a more energetic approach to the financial crisis that

currently besieges most African universities, it is suggested that universities and governments seek agreement on a financial pact that would set the standards for improved university finances over the medium-term. To this end, they might seek over a five-year period to reach the point where—after introducing efficiency-enhancing management improvements—the full costs of higher education would be met through a combined strategy of government block grants, cost-sharing, and income-generation. A possible university funding formula might look like this:

- 70 percent from the State through a block grant which is based on an input formula tied to enrollments.

- 20 percent from students and their families, including scholarships provided by donors and the private sector, and student loans.

- 10 percent from income-generation, fund-raising and other sources.

Financing universities under such a system would place university finances on more stable footing by reducing the current near-total dependence on government and ensuring minimum levels of public support. At the same time, this approach would create other income flows which might be used more flexibly in support of institutional needs such as research, equipment modernization, or up-grading support staff. A fundamental requirement for such an approach is that universities possess the autonomy to collect and manage their income. Most Francophone universities as well as Makerere University in Uganda, are unable to operate a separate institutional bank account. As a result, income generated flows directly into the public coffers and universities have no incentive to diversify their financial base.

# 6

# *Management: The Challenge of Doing More with Less*

One of the most promising short-term strategies that universities can employ to confront their current financial crisis is to improve their management. By critically assessing and reorganizing administrative structures, training administrative staff, encouraging initiative, and rewarding efficiency, universities can generate productivity gains that will allow them to accomplish more with existing resources. But meaningful achievement in this area will depend upon fundamental reforms in university financing and governance that create real incentives for improved management and efficiency.

Improved university management is a compelling goal for universities, governments and donors alike. Universities need untied resources to maintain quality, pursue innovation, and meet social responsibilities. Financially constrained governments seek reassurance that their scarce public funds are well employed. Donors must demonstrate accountability in the effective use of their budgets to their governing bodies. All three sets of actors neglect institutional management capabilities at their peril. A recent World Bank evaluation of three decades of support for agricultural universities (*World Bank 1992*) concludes that projects frequently fell short in their efforts to build academic capacities because they did little to strengthen institutional abilities to plan, direct and manage academic programs.

Promoting greater efficiency through management improvements has become a common field of endeavor for universities, governments and donors. Governments in Nigeria and Zambia have been the most explicit in their policies to promote efficiency. The National Universities Commission in Nigeria has developed an academic accreditation process and formulated guidelines for costing and staff/student ratios by disciplinary area (*Shittu 1990*). Institutional performance is then assessed on academic and efficiency grounds, and achievement is rewarded through budgetary supplements from a general fund established for this purpose.[9] Nigeria has established an MA program in higher education management and planning at the University of Obafemi Awolowo, the first of its kind in Sub-Saharan Africa. In 1989, the Zambian government issued a White Paper on higher education policy which offered clear incentives for man-

[9] With assistance from a World Bank project, the Ministry of Higher Education in Tunisia is creating a similar fund which will be disbursed on a competitive basis to underwrite specific university proposals for institutional innovation and reform.

agement improvements and tied these directly to a budget allocation formula that would be progressively phased into use over a three-year period. Government linked its salary support to specific staff/student ratios and included provisions for research and staff development. At the same time, it told universities that they would now have to cover general running costs primarily through fees and income-generating activities. Finally, government fellowships for students were to be distributed on a competitive basis in accordance with national human resource needs.

Donors are supporting improved university efficiency in a variety of ways. World Bank loans in a growing number of countries emphasize improved resource use in the effort to maintain standards of quality and to limit unsustainable budgetary expansion associated with rising student enrollments. The Government of France, through its Fonds d'Aide et de Cooperation (FAC), is seeking to promote better economic management and to curb enrolment growth rates under its university assistance agreements in Africa. The Commonwealth Secretariat, under its Commonwealth Higher Education Support Scheme (CHESS), is establishing a management development service that will assist universities to operate more efficiently. UNESCO is emphasizing university management training under its "Priority: Africa" program, which is being undertaken in collaboration with the Association of African Universities. Seminars for some 30 university heads were held in Accra during November 1991 and in Dakar during November 1992. The British Council has organized several management workshops for Vice-Chancellors and senior university officers in both East and West Africa. The Government of the Netherlands is assisting several universities to set up student records and finances systems. SAREC is seeking to foster improvements in research management and administration; for example, through a seminar for research administrators from Southern Africa held in Maputo during 1991. The German Foundation for International Development (DSE) is considering support for higher education management training, but it is not yet clear what form this will take. GTZ is underwriting efforts to develop performance indicators in higher education, based in part on input from tracer studies being conducted at the University of Dar es Salaam. The Association of Commonwealth Universities is launching a special management support program for senior women managers in Commonwealth universities. The Economic Commission for Africa includes universities under its general public administration training program, and has some fellowships available for this purpose. The International Institute for Educational Planning (IIEP), a UNESCO affiliate located in Paris, is completing a study of management innovations among universities in developing countries. A series of research reports will soon be available and will be used as inputs to planned IIEP training courses on the management of finances, personnel and space in universities.

Increased management efficiency was proposed as one of four main objectives to guide higher education reform in the World Bank policy study, Education in Sub-Saharan Africa. This found that unit costs were unnecessarily high at many tertiary institutions. The identified sources of elevated cost were small institutions, staff subsidies, low staff/student ratios, large numbers of non-academic staff, extensive student subsidies, ineffective use of personnel and physical facilities, and inefficient financing arrangements. Figure 2 compares a selection of African universities on some of these characteristics.

Subsequent cost containment initiatives have advanced in fits and starts. The problem of small-scale institutions has not changed in spite

of enrolment growth, and remains a cause for concern. While at the end of the 1970s a sample of 50 African universities included 12 with enrolments of under 1,000 (24 percent) and only 13 with enrollments over 5,000 (26 percent), a decade later this was marginally improved. Among 84 universities, some 23—mainly those of the new "second-generation"—had under 1,000 students (27 percent). At the same time, the number with student populations in excess of 5,000 had grown to 28 (33 percent). In some cases (e.g., Dakar, Tananarive) campus facilities accommodate several times the number of students for which they were originally intended.

Small institutions offer few opportunities for economies of scale, and are frequently not cost-effective. Despite the analysis and planning that precedes the creation of a new university, such decisions are often influenced more by strong social demand and national politics than by real need (*Assie-Lumumba 1992*). Relatively small institutions proliferate, even when national economies cannot properly support a single institution. Governments appear incapable of asserting management control over this growth. New universities may be created when existing facilities still possess unused capacity. This may take the form of campus use during only part of the day, buildings standing idle during vacation periods that may represent 20 percent or more of the year, and poor match-ups between class numbers and classroom size. Before committing themselves to the costly creation of new universities, governments are advised to first explore creative possibilities for using existing capacities more efficiently. Options include evening instruction, moving from a semester to trimester system, and improved space allocation systems.

### *Unit Costs*

The World Bank policy paper concludes that unit costs are inflated by the under-use of teaching staff and physical facilities. This is manifested through light teaching loads, restricting class and laboratory hours to a specified portion of the day, and letting the entire plant and staff lie idle for significant portions of the year (*World Bank 1988, p. 77*). Others agree that substantial excess capacity exists in many African universities. The Association of African Universities cost-effectiveness study of nine universities found that most universities lack the means to monitor space use and take appropriate remedial action. However, this excess varies considerably from one university to another, and among departments in a single university. The substantial accumulated experience of the Nigerian National Universities Commission constitutes a valuable reference resource for these cost-efficiency efforts.

Resource under-use is often related to the problems of academic staff retention and low remuneration packages. In many cases, staff use academic examination and holiday periods to pursue income supplementing activities. Efforts to improve staff and facilities use will have to address staff needs for additional income, for example through revenue-producing extra-mural degree programs.

Unit costs—which are not fully comparable because of differences in definition and data quality—show considerable variation across the region as shown in Table 12. This reflects the varying organizational and management structures that characterize African universities in different countries. Unit costs have declined significantly since the World Bank report was prepared as the result of rising enrolments under conditions of budgetary constraint. Notably, the real salaries of academic staff have dropped with the decline in unit costs, creating growing problems of staff retention.

Using constant 1980 dollars, average unit costs for twelve countries fell from US$4,505 in

*Table 12. Unit Costs of Higher Education in 1980 US Dollars for Selected Countries*

| *Country* | *1979-80* | *1986-88* |
|---|---|---|
| Botswana | 6,572 | 2,863 |
| Ethiopia | 1,553 | 898 |
| Kenya | 4,149 | 1,786 |
| Lesotho | 6,167 | 917 |
| Malawi | 3,440 | 1,373 |
| Mauritius | 3,169 | 1,143 |
| Rwanda | 3,079 | 3,325 |
| Senegal | 1,573 | 1,146 |
| Swaziland | 2,473 | 1,095 |
| Tanzania | 8,661 | 629 |
| Togo | 2,148 | 720 |
| Zimbabwe | 11,081 | 1,470 |
| Average | 4,505 | 1,447 |

*Source:* 1979-80: Hinchliffe (1987)
1986-88: World Bank calculations based on UNESCO data.

1979-80 to US$1,447 in 1986-88, a drop of 68 percent. On a sub-regional basis, a different analysis (using 1983 constant dollars) showed that unit costs in the Francophone countries declined by 40 percent in the 1970s, but appeared to stabilize during the 1980s (*Orivel 1988, p. 7-11*). One apparent reason for this leveling-off seems to be the growing portion of the higher education budget allocated to student support as student numbers increased. By 1985, this share had reached 55 percent. In contrast, the Anglophone countries registered a 73 percent rise in unit costs during the 1970s, only to be followed by a rapid drop during the 1980s. Such figures should be used with caution remembering the sizeable exchange rate fluctuations in Africa during this period. Nevertheless, a clear overall trend of declining unit costs is apparent.

While declining per capita expenditure on higher education can be viewed as a positive trend that will bring unit costs in Africa closer to those prevailing in Asia and Latin America, it is important to look at the composition of these expenditures. A recent study of education financing in Africa concludes "evidence suggests that the level of spending on education per se is not as important as the mix in educational spending in influencing efficiency of school systems. Both the mix in terms of recurrent and capital expenditures, as well as expenditures at different levels of education have a greater impact on efficiency than actual amount spent" (*Ogbu and Gallagher 1991, p. 312*).

In sum, then, unit costs are declining and therefore constitute less of a management concern today than they did several years ago. More important now is the composition of unit costs and the need to ensure that some minimum of resources is available for educational materials, research and maintenance.

### *Staff/Student Ratios*

As African higher education systems have grown under conditions of widespread economic constraints, they have often registered efficiency gains through improved staff/student ratios.

However, such gains are more likely to have been the result of increased student intakes rather than selective staff reductions. There are various exceptions to this trend. Table 13 summarizes how these ratios have evolved during the 1980s.

Diverse trends in staff/student ratios were evident during the past decade. Within the smaller low-growth systems, static or declining enrollments combined with stable staff numbers to keep ratios low. In contrast, the rapidly expanding systems added students at a faster rate than faculty, thereby generating significant improvement in their ratios. Within the larger systems, student/faculty ratios were generally much higher than those of the smaller systems, but showed no collective trends over the time period. As a result, one observes mixed results concerning this particular indicator of university efficiency, although the overall trend is favorable. Staff/student ratios have steadily increased from 1:10.3 in 1970 to 1:12.3 in 1980 to 1:14.4 in 1988. The current ratio compares reasonably well with similar ratios in the United States (1:17) and the United Kingdom (1:12), although varying definitions of who is considered a staff member must qualify these comparisons.

The AAU study of university cost-effectiveness documented overall staff/student ratios ranging from 5.0 at the University of Gezira, Sudan to 19.2 at the National University of Côte D'Ivoire. Within a single institution, it records variation at Ahmadu Bello University in Nigeria of 4.6 in the Faculty of Agriculture to 50.0 in the Law Faculty. While these ratios may be used as rough indicators of possible under-use, this must be confirmed in accordance with the curriculum and teaching methods employed in each case. This has led the AAU (*1991, p. 65*) to call for the development of appropriate regional norms to guide the consolidation and expansion of academic programs: *"The evolution of norms to guide more rational use of staff time and capacity utilization needs careful study. This is necessary to guide expansion, and consolidation of on-going programs. Norms for academic staff/student ratios and academic staff/non-academic staff ratios need to be more carefully worked out."* This process is underway in at least three countries. Zambia has employed a general staff/student ratio as the basis for governmental budget support. Nigeria has advanced further; its National Universities Commission has suggested appropriate staff/student ratios for each principle disciplinary area within its universities. Ghana is currently developing similar norms.

It is not easy for universities to move towards more efficient staff/student ratios while simultaneously seeking to maintain or improve teaching quality. Two available tools for helping to manage this process are computer-assisted learning and interactive video. In both cases, new information technology has been applied to university teaching to create packaged teaching programs which supplement and enrich classroom learning, and can also reduce the need for traditional classroom presence and student tutoring by teaching faculty.

Computer-assisted learning and interactive video have been used in some developed countries for much of the past decade, but have not yet reached the point of widespread usage. Programs require sizeable development costs, and early versions were criticized as unfriendly, inflexible, and generally unaccommodating in meeting the needs of the individual learner (*Duursma 1989*). Yet progress is being achieved, and these technologies are gradually finding greater acceptance in European and American colleges and universities. They have proved particularly useful in increasing students' problem-solving skills.

## *Table 13. Student/Faculty Ratios*

| *Country* | *1980** | *1989** | *Trend* |
|---|---|---|---|
| *Small No-Growth Systems* | | | |
| Chad | 6 | 9 | + |
| Lesotho | 7 | 17 | + |
| Liberia | 7 | 11 | + |
| Malawi | 10 | 10 | .. |
| Mali | 10 | 8 | – |
| Swaziland | 9 | 11 | + |
| Tanzania | 4 | 4 | .. |
| Uganda | 13 | 9 | – |
| Zambia | 10 | 11 | + |
| Average | 8.4 | 10.0 | |
| *Small But Expanding Systems* | | | |
| Burundi | 8 | 7 | – |
| C.A.R. | 4 | 8 | + |
| Gabon | 6 | 8 | + |
| Rwanda | 7 | 5 | – |
| Sierra Leone | 7 | 7 | .. |
| Togo | 16 | 27 | + |
| Average | 8.0 | 10.3 | |
| *Small Rapid Growth Systems* | | | |
| Angola | 10 | 10 | .. |
| Benin | 8 | 14 | + |
| Botswana | 8 | 11 | + |
| Burkina Faso | 12 | 28 | + |
| Mozambique | 3 | 8 | + |
| Niger | 6 | 4 | – |
| Average | 7.3 | 13.7 | |
| *Medium-Size Systems* | | | |
| Congo | 25 | 15 | – |
| Ghana | 8 | 13 | + |
| Senegal | 19 | 22 | + |
| Somalia | 20 | 19 | – |
| Zaire | 12 | 17 | + |
| Zimbabwe | – | 17 | .. |
| Average | 16.8 | 17.2 | |
| *Large Multi-Institutional Systems* | | | |
| Cameroon | 27 | 26 | – |
| Côte D'Ivoire | 20 | 23 | + |
| Ethiopia | 12 | 19 | + |
| Kenya | – | 11 | .. |
| Madagascar | 36 | 39 | + |
| Nigeria | 13 | 14 | + |
| Sudan | 25 | 28 | + |
| Average | 22.2 | 22.9 | |

*Source:* UNESCO, Statistical Yearbook, 1991, supplemented by World Bank data.

The diffusion of micro-computers is taking place in African universities much faster than might have been foreseen. In most cases, however, micro-computers are used primarily for word-processing and secondarily for accounting functions. Much of the untapped potential of these machines could be used for instructional purposes. The advantages could be: support for higher staff/student ratios, substitution for the shortage of books and journal articles available for student reference, clarity and comprehensiveness in covering the subject being taught, and encouragement of analytical skills development by students. For these reasons, computer-assisted learning and/or interactive video are useful supplements to classroom teaching.

Given the high developmental costs of these packages, the best strategy might be for universities to purchase existing materials rather than to invest in developing their own. In disciplines such as mathematics, international languages and many of the sciences, currently available programs could be adopted cross-culturally with little loss of relevance in content. They would seem particularly appropriate for use in large introductory courses. This will require that sufficient hardware, including a support and maintenance capacity, is available within the institution, and that teaching staff are trained in its uses. In addition, these techniques must be tested in the classroom to ensure that the interactive methodologies employed are compatible with local academic values and behavior. In Indonesia, for example, learning by doing proved to be an unknown educational principle, and independent study posed a challenge for students used to rote memorization. In addition, the curriculum required some restructuring to incorporate computer-assisted learning. Nevertheless, the experience proved useful in the teaching of first year classes, and was particularly effective in remedial teaching (*Ruijter and Van Weeren 1989*). For African universities which sponsor pre-university enrichment programs for in-coming students, this is a point worth considering.

***Non-Academic Staff/Student Ratios.***

African universities frequently employ large numbers of non-academic staff. These employees generally provide municipal and student welfare services, campus maintenance and university security. The World Bank policy paper notes that non-academic staff in Ghana are roughly double the number for an equivalent British setting, and that in some cases there are as many non-academic staff as students.

This needs to be assessed in light of African realities. In many cases, universities based on the residential model are located outside urban areas (University of Ghana/Legon, National University of Lesotho, University of St. Louis, Senegal) and must supply for themselves many of the infrastructural inputs (water, electricity, road maintenance) provided by municipal government in other settings. Basic maintenance activities such as grass-cutting may use labor-intensive approaches because of the lack of lawn mowing equipment. And as economic conditions have worsened in many countries, theft and pilferage have increased in universities, thus prompting greater numbers of security personnel than are used at European universities—which normally substitute video cameras for employees and count on municipal police for supplementary coverage. While the potential for cost-savings in the area of non-academic services remains valid, the extent to which this can be achieved will depend upon individual institutional circumstances.

Savings may be effected, however, through the progressive privatization of many of these services. Labor law in most African countries provides considerable protection to the employ-

ee, thus limiting management options to reduce non-essential staff through more efficient deployment or in response to budgetary cuts. As a result, universities may, for example, spend library allocations entirely on staff salaries instead of on book and journal acquisitions (*Nwa and Houenou 1990, p. 32*). When these dynamics are repeated over time, the result is to reduce university expenditures on educational inputs, equipment maintenance and building upkeep as salaries consume an expanding share of the recurrent budget (*AAU 1991, p. 34-35*). A further consequence is the erosion of educational quality as these needs are left unattended.

The selective privatization of non-academic services can also bring other advantages. It may reduce the cost and increase the quality of such services through market competition. It may decrease the time that senior managers spend on supervising non-academic affairs and allow them to give greater attention to academic programs. It may also give university leadership additional leeway in responding to student grievances relating to the provision of food and other services. It is not uncommon for student strikes to begin with complaints of food quality and then escalate when universities are unable—because they are their own supplier—to demonstrate a concrete response such as replacement of the food service provider (*Omari 1991*).

Notable gains in the reduction of non-academic employees have recently been achieved in several countries. At Obafemi Awolowo and Ahmadu Bello Universities in Nigeria, a 30 percent decrease in non-teaching staff was carried out, largely by privatizing meal services (*AAU 1991, p. 62*). At the University of Ghana/Legon, similar cut-backs produced savings which were used to create a staff development fund for attendance at professional meetings. In Senegal, Cheikh Anta Diop University contracted a private security firm to replace university guards.

### *Management Information Systems*

As universities become determined to bolster their capacities for strategic planning and management, they have confronted decision-making constraints posed by the lack of appropriately organized and accessible information on key aspects of university performance. The AAU (*1991, p. xvi*) cost-effectiveness study, for example, recommends that: *"The universities should be sensitized to the need and assisted to improve their management practices, especially their records and data collection processes, with a view to implementing management information systems and strategic planning of their programs."* It is not surprising that a September 1990 workshop for a small group of university Vice-Chancellors organized by the British Council in Lusaka, Zambia identified assistance with the introduction of effective management information systems (MIS) as one of their most important needs.

MIS is the organization of the basic operating systems of the university so that they provide the information needed by managers at all levels.[10] Principal features of an ideal system include:

- Integration of the main data files of the university, so that information on students, staff, space, curriculum and finance can be linked easily.

- One entry of each item of data so that, for example, the basic student record is entered

[10] Discussion in this section draws heavily on a paper by John Fielden entitled "Management Information Systems in Universities" which was prepared for the Commonwealth Secretariat as a contribution to the Dakar meeting of the Donors to African Education (DAE) Working Group on Higher Education held in June 1991.

only once and is accessible to everyone who needs it.

- Removal of duplicate recording and processing.

- Instant updating of the common files by those operating the routine processes; during the admissions period, for example, the Vice-Chancellor could look each day at the current position on each course of study.

- Ability of the system to provide operational managers with regular control and monitoring reports on their areas of responsibility.

- Ability to extract institutional or departmental level performance statistics from the individual operating files.

Although computer technology has advanced to the point where these and other functions are technically possible, such systems depend for their viability on sophisticated technology (and technical support), professionals skilled in their use, and reliable institutional processes for data collection and input. In developing countries where these conditions may not be fully met, the challenge is to define what is most needed and what is feasible to achieve, rather than to aspire to all that is technically possible.

The recent experiences of Nigerian universities, the University of Zimbabwe, the University of Abidjan, the University of Ghana, the University of Addis Ababa, and the universities of Madagascar in the development and implementation of an integrated MIS support facility may be enlightening. The Nigerian experience appears to be the most advanced. Launched in 1989 by the National Universities Commission in conjunction with the British Overseas Development Administration, an initial pilot project is underway at the universities of Lagos, Nsukka, Ilorin, and the Federal University of Technology at Minna. The National Universities Commission has produced a booklet (*NUC 1991*) that summarizes the project and lessons learned.

If MIS applications are carefully planned and work well, they will provide strong support for efficient operations and reliable reference information for management. If they do not work well, university administration will be trapped in an endless cycle of unreliable data, mystifying reconciliations, delays, and systems under continual (and perhaps costly) modification. Experience suggests the following lessons for those interested in the development of management information systems:

a. Always have a strategy or plan for developing MIS within an agreed long-term framework.

b. Make sure that a senior person is given direct responsibility for overall implementation of the MIS plan.

c. Obtain the support and commitment of the Vice-Chancellor or Rector, ideally having the university's chief executive chairing a small committee that oversees the policy and management of MIS development.

d. Use commercially available, well documented and thoroughly tested software whenever possible and avoid the creation of locally crafted software.

e. Ensure that the system is linked to the university's academic computing or information science center.

f. Manage the work tightly to commercial standards.

Major questions still remain which a university (and donors) will need to confront before initiating the development of a management information system. The principal one is cost. Universities in developed countries have spent very large sums, often surpassing US$1 million, on MIS installation. Such amounts are not readily available in many African countries. How can these sums be reduced? Through the use of proven software packages and tight project management among other measures. In countries with more than one university, joint approaches to the development of implementation plans, training programs, software evaluation, and equipment purchasing may reduce costs. Among countries with similar structures for university administration (British or French-derived systems), possibilities for regional collaboration in some of these activities may also exist. For example, explorations are currently underway to bring together several higher education systems from Anglophone Africa to participate in the collective development of MIS for managing student loan programs.

Although donor assistance may be critical for the implantation of MIS, it is an unlikely source of support for maintaining the system once installed. It is essential that MIS maintenance be recognized as a legitimate claim on the university's recurrent budget and that the necessary provision be made. It is a false economy to starve the MIS of the resources needed to keep it operating effectively.

A major problem for almost all African universities is the shortage of staff with skills and experience in designing, implementing and maintaining administrative computer systems. Many who are trained may leave for more lucrative positions in the private sector. This is likely to be a permanent problem in many settings. However, some steps can be taken to minimize the disruption of staff turnover. These include the development of close working relationships with local software and hardware suppliers, including encouragement for them to establish regional support facilities or to organize regional training workshops; attention to MIS training and backstopping needs within the context of existing university linkage agreements; and the preferential use of university staff in awarding MIS service contracts. One small advantage of the specialized university software now commercially available is that those who learn to work with it have a less transferable or marketable skill outside the university.

Experience has shown that MIS development in universities takes a long time. Even if African universities use already available software, a realistic time frame for MIS development, including staff training and the establishment of related manual procedures, is likely to be four or five years. This has to be phased in controllable stages which allow the individuals responsible, and indeed the entire institution, to master the requirements of each step. During this period, high level planning or management information is unlikely to be uniformly available. The need for parallel supporting systems of manual data collection and analysis will remain for some time and should not be neglected while MIS is pursued.

### *Capacities for Strategic Planning*

Although many universities have a unit responsible for physical planning and maintenance of the campus, this responsibility is normally isolated from other key planning processes that influence physical planning. Principal among them are financial planning, academic planning, and institutional performance appraisal. For the institution's mission statement and strategic plan

to be effectively implemented will require an integrated capacity to monitor the essential aspects of its endeavor, and to make realistic future projections of its financial, academic and physical needs.

Information on students, staff, finances and other management responsibilities must be readily available for monitoring academic performance, unit costs and institutional effectiveness in meeting its stated objectives. This unit will be expected to contribute to budget development by suggesting priorities based on its analysis of output achievements and shortcomings in teaching and research. It could also assist Departments and Faculties with their internal academic evaluations, and provide benchmark data against which to measure progress.

This strategic planning capacity should ideally be linked closely to the chief executive's office, or be directly supervised by the university's deputy head for administration. For it to be used as intended, the chief executive will have to focus the bulk of his or her efforts on general institutional planning and management issues, and to see this capacity as a primary resource.

Efforts to strengthen university capacities for strategic planning are strongly endorsed by the Association of African Universities (*1991, p. xvi*), which recommends: *"National, sub-regional, and regional projects should be set up to develop and strengthen capacities for strategic planning in the university; and periodic reviews of academic programs offered should be carried out within the context of strategic planning process."*

# 7

# *Improving Governance for Stability and Innovation*

Any overall strategy to stabilize and revitalize higher education on the continent must include changes in the prevailing structures of institutional governance in African universities. In various ways, existing mechanisms of university governance contribute to de-stabilizing internal and external tensions, and constrain university responsiveness to the needs of local labor markets and society in general. Governance can be defined as the mechanisms whereby an institution incorporates the participation of relevant interest groups in defining the scope and content of its work—including the capacity to mediate among these interests when they enter into conflict—and the means whereby it demonstrates accountability to those who support it through its mission mandate and the application of its resources in pursuit of these goals. Understood in this way, effective governance can be expected to contribute stability and innovation to African universities.

The following discussion describes the governance structures that now characterize African universities, and analyzes the extent to which they have proved capable of managing internal conflict when it has occurred.[11] It then catalogues current attempts by African universities (and often their governments) to improve existing mechanisms for participation and accountability. Recommendations are offered on the basis of lessons suggested by these experiences. In essence, three messages emerge:

- Existing governance structures need to be strengthened, and new ones created if necessary, to make them more sensitive to the needs of all the university's stakeholders.
- Greater dialogue among the university's various constituent groups, at both formal and informal levels, is desirable.
- Improved information flows between university administration and its staff and students is needed.

### *University Governance Structures*

University governance structures across Sub-Saharan Africa are generally derived from the institutional models of higher education established by former colonial administrations, although they have often been modified in practice by national political philosophies and associated

[11] Discussion in this chapter draws upon a study by Kilemi Mwiria entitled "University Governance: Problems and Prospects in Anglophone Africa", which was commissioned jointly by the Rockefeller Foundation and the World Bank in 1991.

approaches to development administration. Within the Anglophone countries, universities are normally quasi-statutory organizations created by an Act of National Parliament. Responsibility for institutional policy decisions resides with a University Council whose membership is normally drawn from government, the university, and (less commonly) organizations from the private sector. In most cases, the appointment of the Vice-Chancellor as head of the university is made directly by government. Academic affairs are managed by the University Senate which possesses full responsibility for this. Teaching is organized through faculties, departments and specialized schools or institutes. In most cases, deans of faculties are elected, although heads of department tend to be appointed.

In most Anglophone countries, the head of state also serves as Chancellor of the university. While this was originally intended to emphasize the important role that universities were expected to play in national development and ensure high level support for its efforts, in practice this arrangement has worked poorly. Very often it has served only to exacerbate tensions between universities and the state. Although the President may appoint significant numbers of the University Council in addition to the Vice-Chancellor, this linkage has not produced strong political support for universities. Despite the resultant opportunity for close contact and representation of government views to the university and vice versa, universities have generally been allowed to slide into financial crisis, becoming increasingly less capable of meeting national objectives. In short, state influence and control of university affairs has not led the state to develop a rational approach to planning and financing its universities.

In the Lusophone countries, a more autonomous structure exists. Universities are incorporated as largely autonomous public institutions. University Councils are responsible for institutional policymaking, but their membership is drawn entirely from within the university. Appointment of the Rector as the university's chief executive is made by government and the Rector possesses considerable authority. Instead of a Senate, a Scientific Council manages academic affairs. Faculty deans and department heads are named by the Rector. Although funded by government, in practice these universities tend to be somewhat more independent than their sister Anglophone and Francophone institutions.

Within Francophone Africa, universities are characterized by more centralized governance. The Rector normally receives an open-ended appointment from the head of state. Although accountable to the Minister of Education (or of Higher Education), the Rector controls daily financial and administrative matters directly. A university council, drawn from staff but containing no outside representation, sets academic policy. Deans and department heads are generally elected, and possess certain decentralized responsibilities such as admissions. The administrative model is strongly hierarchical and tends to be inflexible in the face of changing circumstances. As a result, it is generally unresponsive to student concerns (*Assie-Lumumba 1992, p. 35*).

Effective governance can provide the stability necessary for the institutional development of African universities. At present, conflictual relationships characterize the various groups within universities. Academic staff and students frequently disagree with university administration over living allowances, terms and conditions of service, and their perception that university administration promotes governmental rather than university interests. Effective mediation of these conflicts is important for at least two reasons. First, academic staff and central ad-

ministration need to cooperate if institutional goals are to be achieved. Second, differences between students and administration often generate grave consequences for universities. Student unrest has frequently resulted in *"damages to the university image as a source of inspiration and service ... massive destruction of university and public property; loss of life for both students and the public; increased costs in running universities due to stoppages of instruction; creeping de-professionalization of the academia; loss of public esteem and respect for the teaching staff..."* (*Omari 1991, p. 3*). Campus unrest may also lead governments to question the effectiveness of their financial support to universities, and make it difficult for universities to win the governmental cooperation and goodwill necessary to maintain institutional autonomy (see Chapter 4).

What are the sources of these internal university conflicts, and how might they be ameliorated?

Staff/Administration Relations: Despite daily interaction between university administrators and academic staff, relations between these groups are not always cordial. A major source of friction is the fact that senior university administrators are appointed by government and are seen as more accountable to the state than to the university. Where disagreements have arisen between staff or students and government, university leadership has frequently sought to impose the government's position on dissenting groups rather than attempting to mediate the conflict. University leadership may resort to authoritarian rather than consensus-building strategies. Over time, the behavior models at higher levels are adopted by the lower levels of administration. "The urge to project the 'tough administrator' image can be observed even at very junior levels, such as registry officials who take it upon themselves to issue instructions to academic deans or academic staff" (*Lungu 1988, p. 16*).

Because universities are heavily dependent on governments for their funding, the tendency for senior university leadership to reflect governmental rather than university interests is understandable. Nevertheless, the problem remains. Where university administration fails to respond to staff and student concerns, the latter may lose confidence in university leadership. When this happens, senior administrators become ineffective from the viewpoints of both government and the university community. Indeed, African universities are notable for the comparatively high turnover rate among their chief executive officers. For example, of five Vice-Chancellors who attended a Lusaka workshop on university management in late 1990, only two were still in office at the end of the following year. The most effective university leaders are likely to be those who can find a formula for simultaneously serving both government and the university community.

Such a balance might best be achieved if the heads of Africa's universities were appointed through a process that ensures their acceptability to their constituencies. In many countries, the head of the university is appointed by government, and often directly by the president. In these cases, the appointment process might be improved through the use of a nomination system that takes into account the views of staff and students.

The practice of Nigerian universities (Brazil has a similar system) may provide an instructive model. When a Vice-Chancellor position falls vacant, it is publicly advertised. The University Senate then screens the pool of applicants and produces a short list of half a dozen possible candidates. This list is forwarded to the Univer-

sity Council which reduces it to three or four. Council then forwards this list, ranked in order of preference, to the head of state for a decision. Although the first name on the list is usually chosen, selection of one of the other candidates is not likely to produce much dissent since the list was produced by the university community. In a like fashion, Council and Senate could play equally prominent roles in the selection of other key administrators such as deputy Vice-Chancellors and deans of students.

Malawi is a notable exception to the practice of governmental appointment of university heads. There the Vice-Chancellor is selected by the University Council. This practice is also followed by the University of Witwatersrand in South Africa. In a precedent-setting example, recently-elected Zambian President Chiluba announced at his inauguration that he did not intend to take up his statutory appointment as head of the country's two universities, and would allow the university councils to choose their own chief executives. This is a positive example which will hopefully be noted by other African heads of state.

A second source of friction between senior administrators and university staff stems from the fact that the terms of service are often equivalent for the two groups. For example, a university registrar may receive the same salary as a full professor, a senior assistant registrar the same as a senior lecturer, and an assistant registrar the same as a lecturer. Academics frequently feel that such equivalency is unfair. While they are required to possess an advanced degree (preferably a PhD), teaching experience and research publications, administrators are judged by different standards. The source of the problem lies in the common practice of pegging university salary structures to civil service positions and pay scales. As noted in Chapter 6, this deprives universities of the management flexibility necessary to differentiate between these groups in career paths, salaries and benefits, performance incentives, and promotion criteria. This problem must be addressed as a key condition for implementing many of the suggestions that appear elsewhere in this document.

University senates and committee structures generally offer real opportunities for staff participation in academic affairs, although the committee process can contribute to management inefficiency by slowing the decisionmaking. Nevertheless, senates (which often include student representation) are commonly viewed as open and democratic. Likewise, where faculty deanships exist as elective positions, this has promoted more democratic decisionmaking and enhanced the legitimacy of the position. Deans are further respected when they promote participation through regular faculty meetings and by working through elected faculty committees. In addition to improving management efficiency, such practices legitimize decisions made at lower levels and reduce the risk that these will be questioned or overturned by higher level review.

As African universities expand their enrollments and organizational complexity, some decentralization of responsibilities to the level of faculty deans and department heads may be worth considering. Deans and heads must be answerable for both academic and administrative affairs in their units, but this job has become more demanding as enrollments and course offerings have grown. One solution would be to establish a full-time administrator position to handle financial, personnel and related matters. Or deans might delegate certain of their administrative responsibilities to selected colleagues.

Student/Administration Relations: Conflicts between students and university administration have most commonly revolved around student

allowances and living conditions on campus. This appears to be universal in Africa. Students study under extremely difficult physical conditions on many campuses, and suffer from overcrowding, lack of sanitary facilities, and unreliable services (*Coombe 1991, p. 2, Assie-Lumumba 1992, p. 23*). In addition, student protest may focus on more superficial issues when government repression and censorship prevents them from addressing more substantive national concerns.

Students have routinely viewed university administrators as responsible for government directives to limit their allowances or to introduce cost-sharing. Often, students have little appreciation (or information) regarding the financial difficulties of their universities. They may be quick to embrace political action as a solution to their problems without understanding the longer-term consequences of their actions for educational costs and quality. Greater effort to inform students of the profound implications of the current financial crisis in African higher education might be a useful step towards the reduction of such tensions. This might be done by ensuring student representation in the various organs of university governance, briefing students at critical junctures, and regularly disseminating such information through the media to the public in general.

Students have also sought to expand their limited means for expressing their concerns. Although many universities possess a Dean of Students, students do not normally find this office a place where they receive a sympathetic hearing. Student associations have more commonly served as the principal vehicle for advancing student interests. However, these associations have been banned periodically, or compartmentalized to allow the administration to pursue divide-and-rule tactics. Student leaders are frequently victimized by university authorities when they speak out. Such actions are short-sighted. They deprive university administration of a means to communicate with students on common concerns and to negotiate when differences occur. Without these channels, mass meetings with students or arbitrary institutional directives remain as the principal alternatives.

Strong student associations appear desirable in light of the rapid growth in student enrollments. Among the actors who must be involved in efforts to stabilize and revitalize African universities, students are the most vulnerable and least empowered. Yet they possess the potential to materially advance the renewal process. Where communication between administration and students is not fluid, small problems become symbolic of big ones. A student strike in Kenya was triggered by the number of eggs in the student meals. A similar incident in Senegal was prompted by a change in the size of student coffee cups.

Student associations represent an important untapped resource in university efforts to confront the current crisis. Instead of viewing them as opposition groups, university leaders might regard them as potential partners in common efforts to improve university conditions. Repression of mechanisms for fostering student leadership will probably slow the process of national capacity-building by alienating the country's next generation of political leadership, and by transmitting to them inappropriate models of conflict resolution.

Student (and staff) associations can defuse potential conflict situations in many ways. These include: (a) holding regular meetings with their members to analyze problems and identify potential solutions; (b) designing mechanisms for regular communication with members and university administration; (c) representing member grievances to university officials; (d)

restraining students from making unrealistic demands; and (e) explaining to their members the role that they might play in strengthening the administration of university affairs.

In theory, students should communicate problems to the administration through the dean of students. In practice, however, students resort to this office mainly for personal rather than collective concerns. This is partly because students tend to view the dean of students as an extension of university administration. This is particularly true where these deans are career administrators who have had little experience with students. Where deans of students have prior teaching experience, students are likely to find them more acceptable channels for discourse. However, an arrangement in which the dean of students is also an academic staff member is not a promising solution since teaching duties may limit the time that the dean has available for students.

Since student-related incidents have accounted for most of the substantial number of university closures in recent years, special attention could usefully be given to strengthening institutionalized communication channels between administration and students. One way to do this might be by increasing the influence of the dean of students. Instead of reporting to a senior administrator, the dean might report directly to the chief executive, or be up-graded to a deputy position. The position description and terms of service for this key function might also be reviewed to ensure that they attract suitably qualified candidates, and that incumbents of such critical positions are accountable to management.

In addition to improving the formal channels of communication between administration and students, greater use of informal contacts would be advantageous. Frequent and frank discussions that evoke a sense of collective responsibility would go a long way to reducing internal conflict. Where senior administrators have been accessible to students and staff, and where these relations have been characterized by a certain level of informality (Ghana, Uganda), improved understanding among all parties has been the result. The University of Ghana's system of junior common rooms and a residence board which brings senior administrators and students together to address student living condition shortcomings has proved to be successful. An open-door policy by the Dean of the Law Faculty at the University of Dakar increased transparency and information flow, leading to a drop in the number of days lost to student strikes.

Other channels can also be employed to improve internal communications within evolving institutions of higher education. In-house newsletters, departmental bulletin boards, and regular briefings of the university community by the chief executive following university council meetings all help to keep the facts straight and defuse potential rumors. The Vice-Chancellor of the University of Dar es Salaam used many of these means to good effect during the 1985-90 period (*Baregu 1991, p. 4*).

In a survey of university governance issues conducted during 1991, staff and student representatives at the universities visited maintained the opinion that many of the problems that had led to the closure of their institutions in recent years could have been avoided by more effective consultation among the contending parties. In some cases, university leaders had hurriedly advised their governments to close campuses. In others, hasty and uncoordinated actions have embarrassed government sectors. It is reassuring that the need for greater consultation and dialogue is now being appreciated by both students and government officials (*Mwiria 1991, p. 14*).

This positive tendency can be reinforced by a university administration prepared to listen and establish a pattern of cooperation between itself and staff or student organizations. Monthly or quarterly meetings between these groups would help to anticipate problems and to craft solutions at an early stage. If necessary, university leadership should facilitate meetings between staff or student representatives and relevant government officials if higher level intervention is required.

The critical role of university leadership in setting an example for regular consultation is eloquently argued by the Vice-Chancellor of a Nigerian University (*Alele-Williams 1988, p. 103*): *"A vice-chancellor who feels too busy to interact with his staff even occasionally is less likely to succeed than one who takes off time to meet staff and even randomly accepts students' invitations. Such moments provide opportunities for exchange of ideas and letting out steam which could otherwise have accumulated to facilitate a crisis...The more a vice-chancellor is able to do this, the more successful he is in the politics of university administration."*

But improved communication and consultation will only be effective if the university functions as a largely autonomous institution. Otherwise, university leadership will be viewed as a mouthpiece for government with little capacity to act independently on the problems identified.

### *Improving Governance for Innovation*

Universities are expected to undergird national development efforts by contributing new understanding and fresh perspectives that can support economic and technological advancement. For universities to fulfill this role, they will have to create learning environments that encourage creativity, constructive criticism, and constant adaptation to rapidly changing scientific and societal circumstances. This requires the transformation of prevailing patterns of paternalistic governance into structures of participation and accountability which involve staff and students as responsible partners.

The path to this goal lies in transparency and information flow, representative participation, incentives and rewards for positive initiative, and sufficient delegation of responsibility—with appropriate accountability—to enable people to follow up on their ideas. To the extent that these practices can be put in place, the result will be an intellectually alive institution where ideas on a wide range of national concerns are generated, tested and disseminated, and from which graduates emerge with the basic knowledge, analytical skills and professional values to adapt to and meet the challenges of the 21st century.

To this end, the following suggestions hold the promise of achieving greater stability and innovation within African universities through the mechanism of enhanced internal governance.

(a) **Broader Representation on the University Council.** A few university councils are dominated by government representatives. More commonly, representation is divided in roughly equal parts between university and government. In many cases, limited participation by non-public sectors deprives the university of important inputs and knowledge. More appropriate representation would be government, the university community, and the private sector in three roughly equal proportions.

(b) **Increased participation in internal decision-making.** Wider involvement of staff and student representatives in key university governing bodies, together with more opportunity for them to participate in selecting

senior university administrators, would strengthen these officials' sense of accountability to the university community.

(c) **Greater Autonomy in the Selection and Appointment of the University's Chief Executive.** The position of university head is a difficult one. To be effective, the incumbent should be legitimized by a transparent and participatory selection process. The position should be publicly announced and primary responsibility for the selection should reside with the university community. The term of office should be for a defined period, and tenure should not be affected by political whim or changes at the national level.

(d) **Encourage Staff and Student Associations.** This will establish useful channels of communication and conflict mediation, and create a potential resource that can be mobilized in support of common interests within the university community.

(e) **Increase Information Flows.** Formal and informal consultations among university administration, staff and students will enhance understanding of the problems faced by universities, allow earlier identification of and response to potential conflict problems, and build an overall sense of common endeavor.

(f) **Strengthen the Office of Dean of Students.** This could be accomplished by making the dean directly answerable to the university head, or by establishing this as a deputy-head position. Position qualifications and terms of service should reflect the needs and importance of this responsibility.

# 8

# *Maintaining Relevance in a Changing World*

***Institutional Flexibility and Adaptability***

The objectives which guided African universities during the post-independence period were responses to conditions and needs which prevailed at that time. It is the premise of this discussion that these conditions have now changed substantially, and that the needs that African universities are challenged to meet today have changed in consequence. National economies and labor markets are now much more integrated with, and affected by, international economic systems and labor markets. The accelerating pace of scientific advancement has produced a range of new developments—from agricultural bio-technology to synthetic materials to computerized information systems—that have combined to undercut the earlier comparative advantage of many African economies, often heavily dependent on natural resource exploitation and the export of raw materials. Economic advantage is now increasingly based on technology-reliant management efficiency and on national human resource capacities to manage these increasingly complex systems. The rapid pace of technological change means that economic rewards are most likely to accrue to production systems which possess flexibility and adaptability. What African universities are called upon to contribute—as in all countries throughout the world—are graduates who are thinkers as well as problem-solvers, people who can generate ideas and insight regarding larger economic, social and cultural issues as well as wrestle with the daily demands of public and private enterprise.

If they are to fulfill their key responsibility for contributing skilled human resources to national capacity-building, African universities will be increasingly called upon to embrace flexibility and adaptability as desired institutional qualities, and to impart these as professional values to their students. Africans have amply demonstrated these attributes in moving from traditional to modern societies more rapidly than anywhere else in the world. Their universities are now challenged to build upon what has largely been a process of aggregate change at the individual level and institutionalize these values in support of the sweeping processes of economic and political re-structuring now underway throughout the continent. Flexibility signifies a willingness to question prevailing ways of thinking and an openness to new organizational alternatives. Adaptability is the capacity to adjust goals, procedures and institutional structures whenever such changes are likely to lead to increased productivity and effectiveness.

The following discussion explores ways in which African universities are currently demonstrating flexibility and adaptability in the effort to maintain relevance in a rapidly changing world. It does so in the context of universities' two primary missions: teaching and research. Teaching is addressed in terms of curriculum relevance and the capacity to mount specialized graduate degree programs. The section on research engages the challenge of revitalizing university performance to provide the information and technology that will support the national development effort. The discussion should be read in conjunction with, and seen as complementary to, the preceding chapter on improving university governance for stability and innovation. The goal throughout is to seek intellectual balance between a capacity for critical and innovative thinking, and the application of ideas for the betterment of the human condition on the African continent.

Curriculum. Conversations with public and private sector employers of university graduates throughout the region highlight collective dissatisfaction with some aspects of university education. Common complaints are that graduates are narrowly trained in a single discipline and lack the breadth of understanding necessary to confront complex problems. In Zimbabwe, a major manufacturer notes that he must give university graduates in engineering an additional six months of training in business administration before they can assume factory responsibilities. In Botswana, a survey of 1,300 firms indicated their greatest need was for management training as an adjunct to other professional skills. In Mozambique, Ministry of Agriculture officials lament that university agronomists have no understanding of farm management or agricultural economics. Greater student exposure to the principles of management and administration was a frequent suggestion.

A parallel concern of employers is that university education emphasizes disciplinary concepts and information to the exclusion of professional skills development. Key abilities such as critical thinking, problem-solving, time management and the organization of information are frequently not developed on campus. And where this does occur, graduates are less productive in the workplace. Worker inefficiency, when combined with the resultant need for firms to mount compensating in-house training programs, increases the costs of production and, in the aggregate, may diminish national competitiveness in global markets.

Feedback from the labor market suggests that academic programs might be made more flexible so to facilitate interdisciplinary study and responsiveness to labor market demands. One way of doing so might be to move away from rigidly structured degree programs based on a series of required courses to one which bases graduation on the accumulation of a defined number of academic credits. Under this system, which has been widely used in the United States, the student is able to combine studies in key disciplines in accordance with career aspirations. An additional attraction of an academic credit or course unit system is that it increases internal efficiency by enabling students to move among different institutions of higher learning without the need to start afresh.

The credit system also promotes equity aspects of higher education by facilitating university reentry and degree completion by students (particularly women) who might be forced to interrupt their studies for personal reasons. It allows workers to study on a part-time basis. And it can enable a low-cost expansion of university enrollments by permitting course credits to be accumulated through the self-paced learning of distance education, continuing education or

intensive courses during vacation periods, including courses given in selected provincial cities. Regel (*1992*) provides a fuller discussion of the strengths and weaknesses of the academic credit system and its applicability to developing countries.

*Box 4. Academic reform proposals at l'Université Nationale de Côte d'Ivoire*

> The Université Nationale de Côte d'Ioivre is taking steps to confront serious problems at its main campus in Cocody which include severe overcrowding, high repetition rates, declining educational quality, and unsustainable levels of expenditure. In response, two new campuses are being established at Bouake and Abobo, and this offers the opportunity to seek improvements in the university's academic organization. The Bouake campus is considering a range of academic reforms intended to improve student performance while making the university enterprise more cost-effective. Suggestions include the introduction of an academic credit system, the use of common core curricula and classes across disciplinary courses for first year students, establishment of a computerized management information system for student records, decentralization of some management responsibilities to faculty and department levels, student evaluation of faculty teaching performance, and the introduction of various performance incentives. The process is being managed by a Pedagogical Committee, composed of deans and selected professors of recognized talent, with occasional advice from international experts.

At present, the academic credit system is under consideration or being implemented in several countries. These include Cameroon, Ghana, Mozambique Niger, Uganda, and the universities of St. Louis and Cheikh Anta Diop (three departments only) in Senegal. The University of Juba in Sudan has development-oriented colleges that are explicitly interdisciplinary in their organization, for example, College of Natural Resources and Environmental Studies, College of Social and Economic Studies.

Such fundamental changes in the academic program, however, must be carefully planned and clearly communicated to students, faculty and employers. At the National University of Lesotho, for example, an earlier effort to combine aspects of British academic requirements with a modified academic credit system created a hybrid program that proved cumbersome. Students were hindered from undertaking a coherent program of studies, and faculty time was absorbed in administration and paper-work at the expense of tutorial and research activities. The system is now being revised.

Continuing curriculum review and adjustment are also necessary if a country's skilled human resources are to contribute productively to national development. This must be done in accordance with each country's needs and assessed priorities. Where graduate unemployment is a concern, some countries (such as Nigeria, Cameroon) are giving more emphasis to "education for self-employment" in which students are provided with basic courses in accounting and business administration. The need for students to be "information literate" in a world where knowledge is increasingly deposited in computerized data bases and provided through academic electronic networks is readily apparent. Recognizing the implications of rapid change in productivity-enhancing information technology for a country with an acute shortage of university graduates, Eduardo Mondlane University in Mozambique now requires all

students to undergo computer training. The same university conducted major curriculum reform in 1985 which was based upon a definition of occupational profiles (the types of jobs likely to be available to graduates and their institutional requirements) and professional profiles (the technical skills required for proficiency in a given disciplinary area). Course structures and content were then developed in accordance with these guidelines. The effectiveness of this reform is scheduled for assessment in 1995.

One promising mechanism for ensuring that course content keeps pace with new knowledge and changing labor market requirements is through informal advisory committees at the departmental level. These committees are generally composed of half a dozen representatives of the main employment sectors for a department's graduates. For example, a business school might select individuals representing the local chamber of commerce, manufacturers' association, or chartered accountants. Committee members meet one or two times a year to discuss training needs and research priorities. As relationships of trust and understanding are built, opportunities for research contracting, departmental consulting and student placement may emerge. In a world of shifting labor market needs and where manpower forecasting has proved unsuccessful (*Psacharopoulos 1990, p. 377*), such flexible yet continuous lines of communication will help to maximize universities' external efficiency.

Informal advisory committees of this type are reportedly used with some success by several departments at the University of Zimbabwe, and the new University of Namibia plans to formally establish advisory committees for all its departments. The University of Malawi recently began to review the content and relevance of its courses with the help of expert panels that include representatives from outside the university. Ghana is considering the gradual elimination of external examinations and replacing them with local professional associations to guarantee standards of quality and relevance. University alumni associations also represent a valuable advisory resource on curricula issues.

Other more traditional, but also more costly and time-consuming methods of monitoring shifts in labor market demand include tracer studies and employer surveys. Nevertheless, these can be effective instruments for informing large-scale efforts at curriculum reform, and for breaking down university isolation from government agencies and the productive sectors. The University of Malawi recently completed a major tracer study of its graduates which sought to identify the types of jobs they were doing and to assess the relevance of university education for their current employment. The exercise has also produced a data base of graduate names and addresses that will support an effort to create an alumni network (*Dubbey and others 1990*). Similar tracer studies are underway at Ghana's three universities. The University of Botswana recently surveyed local employers for like purposes. The University of Dar es Salaam has completed a comprehensive tracer study of its graduates, and its Faculty of Engineering has completed this with an employer survery. The University of Swaziland sought the participation of the local business community in developing a curriculum for its proposed new Faculty of Commerce. In the process of doing so, a positive working relationship with the National Federation of Employers was developed which led it to organize a fund-raising campaign for the construction of the new Faculty building. For those interested, the International Institute for Educational Planning has just published a self-instruction manual on how to carry out follow-up and tracer studies (*Lamoure 1992*).

In fact, whenever universities have demonstrated sincere efforts to reach out and address the concerns of other sectors of society, shown flexibility in considering the input that this process produces, and displayed adaptability in their response, creative initiatives have resulted. In addition to the examples noted here, a further result of the University of Botswana's survey of employers has been the creation of an innovative "Productivity Center" within its Institute of Development Management. Plans call for this Center to focus on incentives, motivation, work ethic and professional values required for individual and national success in the world of work.

Regional Cooperation in Graduate Training. Graduate training programs deserve special attention for several reasons. First, graduate programs are critical for national capacity building because they select and produce highly skilled professionals, including the academic staff of universities. Second, they are key determinants of the quality of undergraduate education. Third, it is at this level that research skills are acquired and new knowledge is produced. Fourth, graduate programs, if not carefully planned and periodically reviewed, can constitute an excessive drain on university resources and an inefficient use of staff.

In recent years, a proliferation of graduate programs intended to accelerate the process of national human resource development, when combined with declining budget allocations and associated staff retention difficulties, has created a situation where many graduate programs cannot be sustained at the standards required to ensure professional competence within competing regional and international economies. For example, a recent assessment of African graduate training programs in economics concluded that only four MA programs in the region appear to offer training of acceptable standard (*Fine 1990*).

An AAU review of graduate training and research among ten West African universities records a severe decline in graduate programs. It documents numerous cases of graduate programs serving very small numbers of students and awarding just one or two degrees per year. The AAU report concludes that these graduate programs *"are inadequately equipped and staffed, are not cost effective because of the dispersion of the students over a diversity of fields, and have been unable to make significant contributions to research for development"* (*Nwa and Houenou 1990, p. 2*). Not surprisingly, these conditions prompt renewed interest in the possibilities of regional collaboration around a division of responsibilities for graduate education in certain specialized areas. In fact, the AAU survey cited was undertaken precisely with this goal in mind.

Smaller nations would be well advised to consider collaborative regional approaches in the provision of higher education. While they need to develop a minimum training and research capacity in areas critical to the national economy, they face real constraints in determining the type and number of quality tertiary programs that they can support. Among these are their limited financial resources, the modest size of their labor market, and the difficulty of obtaining economies of scale. A main challenge is to achieve an appropriate balance between tertiary training in local institutions, at the regional level, and overseas. Regional collaboration offers a particularly cost-effective approach, wherein each participating country might strengthen one or more established national programs to operate as regional centers of specialization serving several countries (*Salmi 1992, p. 5*).

Regional cooperation among universities has been discussed and espoused on numerous occasions. One hardly recent example is the 1985 joint ECA/AAU conference in Mbabane, Swaziland. The resulting "Mbabane Programme of Action" (*1985*) called on African universities to *"explore the most efficient ways of sharing the limited resources available on the continent by making use of existing facilities ... on a regional and sub-regional basis."*

Why has regional cooperation made so little headway? Lack of progress may be due to the absence of organizational mechanisms to facilitate this process. Representatives of participating governments and universities need a forum that enables them to build communication and trust on these complex issues through regular interaction, to undertake the studies and consultations necessary to develop a work plan, and to hold them collectively accountable for their decisions when strategies for regional cooperation are discussed.

A mechanism of this type was established under the Special Programme for African Agricultural Research (SPAAR) and it has proved to be instructive. The SPAAR program sought to rationalize graduate programs in agriculture and natural resources among the nine nations of Southern Africa. The initiative began in 1984 when the deans of Faculties of Agriculture from the SADCC countries reached agreement on a series of collaborative research undertakings. As they became more familiar with each other's institutional leaders and capacities, the deans began to systematically explore the possibilities for an institutional division of labor in the provision of agricultural graduate training. Through this process, the participating Faculties of Agriculture agreed in 1987 to allocate graduate training responsibilities among them. These programs are regionally oriented, encourage the exchange of staff and students, and pursue research of topics of regional importance.

However, operationalization of this decision has been slow because of unresolved issues of student mobility, degree equivalency and recognition. In the effort to settle these questions of larger institutional policy, a joint meeting of participating deans and Vice-Chancellors was held in September 1991. This meeting served to highlight the fact that institutional leadership might fruitfully have been involved in this process at an earlier stage. If this had been the case, questions of institutional policy might have been identified and resolved in tandem with the process of negotiating agreement among the deans of agriculture.

A second regional training initiative is the African Regional Post-Graduate Program in Insect Science (ARPPIS) launched in 1985 by the Nairobi-based International Centre for Insect Physiology and Ecology - ICIPE. In the effort to expand the numbers of African insect scientists as part of a strategy to increase the continent's agricultural output by reducing insect damage to crops, ICIPE negotiated an agreement with two dozen participating universities whereby a doctoral student enrolls at a home institution and then conducts coursework and dissertation research within the context of ICIPE's research program and under the supervision of an ICIPE scientist. Provision is made for the student's local university advisor to visit during the course of the research, and the final degree is awarded at the home university. In the course of this experience, a newsletter and a research workshop series were added as complementary activities.

Six years later, the working relationships developed through ARPPIS are providing the basis for several collaborative training initiatives at the

Masters level. Following an appraisal of university capacities for insect science instruction and research, three universities in East, West and Southern Africa have been selected to sponsor MS programs in entomology on a sub-regional basis. These programs will then play a "feeder" role in furnishing more qualified candidates to the ICIPE doctoral program.

A third regional training endeavor is underway through the African Network of Scientific and Technological Institutions (ANSTI), formed in 1980 as a UNESCO initiative. Although heavily dependent on donor-support, it has promoted collaborative graduate training in thirteen different science disciplines. A masters degree course is offered at a host university, with supplemental staff seconded by sister institutions in the region. Students are drawn from collaborating countries, and some 177 scholarships have been awarded to date. For example, 15 out of 20 students attending an MA course on industrial management at the University of Sierra Leone were from neighboring nations. The program also includes staff exchanges, skills-building workshops, and a newsletter. Because of funding constraints, it remains a promising pilot project.

Several lessons may be gleaned from these experiences. First, a structured process of regular institutional interaction is necessary. This allows for working relationships to develop on the basis of trust and information exchange, offers a guarantee that institutional investments of scarce staff time and resources are likely to prove productive, and holds the group accountable for any decisions it might make. Second, an institutional mechanism (SPAAR, ICIPE) is necessary to manage this process. In the future, this role might also be fulfilled by regional associations such as the Association of African Universities, or sub-regional organizations such as the Conseil Africain et Malgache de l'Enseignment Supérieur (CAMES), the Eastern and Southern Africa Universities Association, or the East African University Council. Within specific disciplines, emerging regional research networks may also serve this purpose. Third, the capacity to mobilize external funding for these efforts is critical. SPAAR was funded by the World Bank and other donors. ARPPIS used ICIPE as a broker in its international fundraising. When donor funding faltered, ANSTI did too. Finally, university leadership at the higher levels must be involved from the outset to ensure that resulting regional training agreements are viable in terms of prevailing university policies.

Under currently difficult economic conditions, regional cooperation in graduate training offers an attractive, cost-effective option for expanding the numbers of specialized professional and academic staff on the continent under acceptable conditions of academic quality. Efforts to seek regional rationalization among specialized graduate programs seem likely to follow three complementary approaches. Where graduate training and research occurs in disciplines which require costly scientific equipment, a clear division of responsibilities in favor of those programs which currently hold a comparative advantage in terms of equipment, infrastructure and library resources seems appropriate. Possible examples might include microbiology, radiology, and food engineering. Subsequently, government and donor funding would seek to strengthen these designated specialization programs. The intent would be to create a few programs of acceptable standard that would attend limited regional demand under cost-effective conditions. This would require a degree of student mobility in pursuit of such specializations.

Where graduate disciplines do not require such sizeable investments (agricultural economics, social anthropology), regional collaboration can be pursued differently. A core curriculum and

thesis work can undertaken by students within their corresponding national program. At the same time, participating programs can collaborate in offering specialized elective courses at a common rented facility during the academic vacation period, in conducting external examinations of core courses and theses, and in preparing teaching materials for common use (*Fine 1991*).

Finally, where the numbers of professionals needed for a country in a specialized discipline are too small to justify institutionalizing either a national or regional program to produce them, temporary graduate training might be considered. For example, four or five students from half a dozen participating countries might come together at a rented facility for an intensive one-year MA/MS program. The program could be managed by a small secretariat on a contract basis, and offer intensive course modules taught by faculty drawn from the region or abroad who would spend one or two months in residence. Such a program might be linked to an established overseas institution that would guarantee standards and confer the graduate degree. The International Institute for Educational Planning in Paris has participated in a program of this type designed to produce half a dozen educational planners in Mozambique. While this has proved to be a very labor-intensive undertaking for the managing institution, advantages of flexibility and responsiveness may outweigh the costs where a limited number of local experts is required.

### *Revitalizing Research*

Research is a defining characteristic of universities. It sets them apart from other post-secondary educational institutions. Research enriches course content and makes it more relevant to local settings. Research participation teaches students necessary professional skills. Most important, it enables a society to generate understanding of itself and its problems that can be used to orient its development efforts.

As noted in Chapter 3, the research record of African universities has not met expectations. There are several reasons for this. First, the larger environment has often not been conducive to the development of serious research. Where freedom of expression is circumscribed and critical thinking is discouraged, it is difficult to create an academic culture that fosters research. Second, financial support for research has been a major victim of governmental and university budget-cutting as the African economic crisis has deepened. Third, parallel deterioration in the terms of service for academic staff has made university employment a part-time proposition as full-time staff limit their time on campus so as to pursue outside income-supplementing activities. University administrators feel incapable of demanding compliance with the work day since they are only too familiar with the economic hardships faced by staff. In this situation, research is generally the first activity to be sacrificed. Finally, there is little in the way of incentive or reward to encourage research activity. The absence of such incentive has been called the main obstacle to good and efficient research in most developing countries (*Thulstrup 1992*). Although promotion is often linked to research output, this criterion for advancement has become increasingly less relevant as increased teaching loads, outdated libraries and low salaries make research and publication nearly impossible. In addition, extended time periods separate the opportunities for academic advancement, and the resulting salary increases may not be justified in terms of their opportunity costs. Government itself does not generally encourage research undertakings, or recognize

superior performance in this area. Instead, the pseudo-research produced by quick consultancies is often a financially more attractive option.

How can this situation be reversed? A multi-faceted strategy seems required. To start with, greater public discussion of the important relationship between research capacity and national development is needed. As opportunities permit within the trends towards greater political pluralism in various countries, the linkage between freedom of expression, the development of critical independent thinking, and quality in research and teaching must be made explicit. If Africa's greatest poverty is a paucity of ideas, the cost to a country that produces a generation of uncritical thinkers will be enormous.

Next, universities must ensure that they have an institutionalized leadership capacity to promote research. The University of Malawi, for example, created the post of Research Coordinator in 1988 to encourage staff to undertake research, to improve the proposal preparation process, and to seek external funding for these undertakings. A notable increase in research activity followed. The University of Yaounde (see Box 5) produced even more impressive gains through new research policies which combined incentives with accountability (*Ngu 1992*). The University of Sierra Leone has established a University Research and Development Services Unit to develop and market applied research and consultancy proposals. The Université de Ouagadougou has created a position of Assistant Dean for Research.

After that, a range of incentives and rewards must be offered to encourage not just research, but research of respectable quality. These must be determined according to national and institutional circumstances. Possibilities include prizes or national recognition; priority in the allocation of scarce scientific equipment, computers or travel to professional meetings; and eligibility for additional training or study. Where universities have the management autonomy to do so, annual salary adjustments should include a consideration of research output. To lay the basis for this, research should be explicitly included in a staff member's position description and employment contract.

Finally, governments, donors and universities need to ensure that funds are available to support research and provide for research infrastructure. The AAU (*1991*) indicates what is needed. It recommends regular budget provisions for research and the maintenance of scientific equipment, a standing 5 percent allocation for university libraries, and a more aggressive search for private sector research support.

During the past year or so, several African universities have registered progress in generating financial support for university research. The University of Dar es Salaam has, with help from GTZ and the Swiss Development Corporation, established a research fund to top-up staff salaries in return for research. This supplement is provided in response to an acceptable research proposal and against a specific time commitment to research. The fund also underwrites professional conference attendance as an incentive to produce and disseminate the proposed research. A similar university research fund has been set-up at Eduardo Mondlane University in Mozambique with assistance from SAREC and NORAD.

The University of Zimbabwe is one place that has demonstrated a strong commitment to research. In addition to active pursuit of donor funding in this area and some private sector contributions, the university receives an annual allocation of roughly US$1.5 million within its government budget for its research fund. This fund provides grants to faculty members of

*Box 5. Strengthening Research at the University of Yaounde*

In the mid-1980s, the University of Yaounde in Cameroon found that the quality and quantity of its research output was declining. In response, a new strategy for promoting research was instituted. First, accountability for funds spent on research became mandatory. All research grants from the University were awarded to staff on the basis of the scientific value of the research proposals submitted, their relevance to the development of Cameroon, and the research track record of the scientists involved. Annual progress reports were required. Less than 20 percent of applicants received awards, and in this way competition was fostered. Second, significant investments were made in upgrading the equipment and infrastructure necessary for research. This was done by using 50 to 70 percent of the University's annual budget allocation for research to rehabilitate facilities. Six years later, good material conditions were in place for several faculties. This policy paid dividends by reducing the need for scientists to go abroad for research, and by focusing research on national needs. In the process, staff improved their research skills. The number of research publications increased by five-fold, and the amount of external funding for research quadrupled.

US$3,000 to US$7,000 for research. The grants cover field travel, equipment, materials, publications and—on an exceptional basis—research assistants. The fund can also grant travel funds to enable a staff member to present a research paper at a scientific meeting. Funding decisions are made by a Research Board composed of one representative from each university faculty. The Board elects a chairman from its members. The Board gives each staff member US$150 annually to use on research as he or she wishes. This practice is intended to encourage scientific inquiry throughout the university and to avoid "clogging" the research board with numerous small requests. At the end of the year, each department is required to account for the use of these small grants. A periodic university research newsletter lists new awardees and selectively summarizes the results of completed research. The Research Board is currently seeking to provide advisory inputs to donors regarding funding priorities for research. Staff are unanimous in their opinion that these research activities contribute to the maintenance of a lively intellectual environment on campus and provide the basis for fruitful interaction with other organizations in Zimbabwean society.

Research Networks: In recent years, there has been considerable interest—most of it donor-driven—in the establishment of research networks. These networks have been seen as a viable strategy for fostering research output under conditions of widespread deterioration in institutional capacities and infrastructure. Generally, this model involves the identification of talented individuals in several countries, direct research grants to these individuals for their work, and periodic meetings of this group to assess and disseminate their output.

One of the most successful examples of a research network is the African Economic Research Consortium (AERC). Its achievements are the result of an informed selection of participants, a consultative decision-making process, a calculated research focus on a few key issues that provide common experience which facilitates interaction, and a strong system of peer review. The Consortium has benefited from

experienced and energetic leadership, and from strong donor interest in economic research.

Another promising enterprise is the Educational Research Network for Eastern and Southern Africa (ERNESA), and its younger West African counterpart, the Educational Research Network for West and Central Africa (ERNWACA). Through ERNESA, a community of qualified educational researchers, supported by a small secretariat, pursue research with assistance from a general research fund, and exchange experience through workshops and newsletters. Technical backstopping is obtained through a linkage arrangement with Harvard University. The program is heavily donor-dependent, but is also notable for the financial contributions it has received from national governments.

Other research networks serving the education community are the Eastern and Southern African Universities Research Programme (ESAURP), established in 1978 as a non-governmental policy research center and located in Dar es Salaam; the Council for the Development of Economic and Social Research in Africa (CODESRIA) headquartered in Dakar; and the Organization for Social Science Research in East Africa (OSSREA) based in Addis Ababa.

Within the sciences, a notable network is the Natural Products Research Network for Eastern and Southern Africa (NAPRECA). It is remarkable for having been initiated and sustained by African scientists themselves. With over 100 researcher members, NAPRECA organizes training, professional exchanges, research support and dissemination activities. It also maintains a bibliographic search service for members (*Tindimubona 1992, p. 43-45*).

Networks have performed less well where their membership was based on institutional rather than individual qualifications, where the linking theme was broadly defined and thereby impeded the emergence of common interest, where quality research publications were not an explicitly defined output, and where internal mechanisms for quality control were lacking. In some cases, networks have been poorly grounded in local demand, thus creating the risk that they become "all net and no work."

Networks are attractive to donors because they offer the promise of good value for money, of combating brain drain, and of generating high visibility. They are attractive to researchers because they break down intellectual isolation, provide opportunities for income and travel, and may lead to new employment possibilities. The shortcomings of networks are that they are heavily donor-dependent, contribute minimally to universities' own institutional development, and stand little chance of becoming permanently institutionalized.

### *Conclusions*

If African universities are to be key contributors to national capacity-building processes, they will have to demonstrate continuing relevance in a rapidly changing world. Their teaching and research will be called upon to support the efforts of the continent's emerging private sector, including non-governmental development organizations and business enterprise. To this end, course content may need to give greater emphasis to the development of critical thinking and problem-solving capacities, and to impart specific management and administrative skills. At the same time, greater flexibility in academic programs may be needed to incorporate interdisciplinary approaches and accommodate part-time or continuing education studies.

The local business community can be an important partner in this. Continuous communication

and feedback between universities and employers are needed to ensure that higher education is responsive to labor market trends (*Psacharopoulos and Woodhall 1985, p. 73*). Using informal advisory committees at the departmental level may improve communication between the university and the employer community and ensure that graduates are prepared for the labor market. Selective experimentation with direct involvement by businesses and their professional organizations in the educational process deserves consideration; such participation has prompted significant transformation in other countries. Among the forms that this involvement might take are joint research, cooperative education programs, and direct investment in disciplinary capacity-building.

Graduate training must be given special attention as the existence of local MA/MS programs is critical to the process of local capacity expansion. Since not all countries can afford to support MA/MS programs in all disciplines, innovative forms of regional cooperation and institutional linkage will be necessary.

Research sets universities apart from other educational institutions and affirms their relevance to society's needs. It enriches classroom teaching and contributes new knowledge to guide national development efforts. The revitalization of African university research requires a strategy which includes:

- Freedom of expression as a condition for critical independent thinking.
- An institutionalized capacity to promote and manage research.
- Appropriate incentives and rewards for research output.
- Guaranteed minimum funding for research from both government and donors.

# 9

# *Preserving Quality*

Educational quality is perhaps the most important, yet most elusive, aspect of any higher education system. It is important because it sets the standards that define a university's intellectual environment. This, in turn, conditions the vision and capabilities of its graduates, and ultimately, the capacity of a nation to manage its affairs. The consequences of declining or improving quality may not be felt for many years—until graduates reach decision-making levels of responsibility in public and private institutions. Asavia Wandira (*1977, p. 7*) states this argument well: *"The prestige and acceptability of a university's graduates depend on satisfying local as well as extra-national notions of good university education, however vaguely expressed. A university which does not enjoy international acceptance of its standards, prejudices the academic future of its most promising graduates. And as its standing as a place of higher learning declines, the university's ability to recruit good staff and students declines also. Mediocrity today leads to greater mediocrity tomorrow."*

Quality is not easily gauged. Aspects of measurement may be subjective or be culturally biased. This is particularly the case where, as in Africa, local quality assessment and monitoring systems may still be in the early stages of development. Lacking educational performance benchmarks that are comparable over time, the discussion of quality in African higher education must rely heavily on circumstantial evidence.

Available information, corroborated by informed opinion, suggests that the quality of higher education is declining—perhaps significantly—in many countries (see Chapter 2). The "gold standard" of excellence that was explicitly sought by the early and necessarily elitist universities of Anglophone Africa (*Ashby 1966*), and which was replicated in Francophone Africa by reserving the right of degree conferral to universities in France, has gradually been compromised. Rising enrollments have made expansion of this full-time residential model economically unsustainable under current financial constraints.

During the 1980s, the combination of incremental budgetary belt-tightening and rising enrollments within African universities produced a generally recognized deterioration in the quality of higher education across the continent. The conclusions from a recent analysis of higher education quality in East Africa (*Mwiria 1991, p. 27*) could well be applied more broadly to the region: *"That universities can play a key role in influencing any given country's development is unquestionable. The capacity of East Africa's public universities to effectively continue playing this role is now more questionable as standards of the education they offer plummet. The symp-*

*toms of the downward trend include declining performance in university examinations by students, a de-emphasis on merit considerations in the recruitment of students and staff, declining research and publications output, and complaints by employers on the poor preparation of university graduates for employment."*

Today the preservation of quality figures high on the agenda of both universities and their donors. Governments, however, have often seemed less concerned as they accede to political pressures for increased university enrollments without fully considering their budgetary implications. Yet governments should be concerned with receiving educational value for money. Their own capacity to craft and manage national development processes depends upon it. And as the introduction of university fees gains acceptance across the continent, students and their parents will demand it. Where students share in the cost of their education, high rates of drop-out and repetition are likely to come under increasing scrutiny as people begin to question the poor return on their investment. One positive consequence of increased cost-sharing may be to transform students into active proponents of quality education.

### *Student Drop-out/Repetition*

African higher education systems are often inefficient in terms of their graduate output. Given the continuing need for specialized human resources in most countries, this is cause for concern because low graduate output delays national capacity-building efforts. In Senegal, first year pass rates vary from 23 to 43 percent and repetition is permitted almost without limitation. Consequently, roughly 20 student-years of study are needed to graduate from a four-year program. To complete a three-year undergraduate program, Cameroonian students require an average of 7.7 years in the arts, 8.9 years in law and economics, and 18.2 years in the sciences. In Mozambique, drop-out rates approach 50 percent. Repetition rates in Congo exceed 40 percent and the average age of graduates is 30 years. In Madagascar, the 1988-89 drop-out rate was 20 percent, and the overall repetition rate was close to 50 percent.

In some cases, drop-out may affect some social groups more than others. Namuddu (*1992*) notes that drop-out rates for women at Makerere University in Uganda have been 20 percent for women, but only 3 percent for men. She speculates that this may be due to the particular adjustments women need to make in leaving a family environment, and to the lack of relevant support services to aid them in this transition.

Under such conditions, costs per graduate are extremely high. The estimate in Cameroon, for example, is US$107,000 for each university graduate. Permissive repetition policies waste public resources and undermine efforts to maintain standards of educational quality. They contribute to over-crowding and increase the workloads of academic staff to discouraging proportions. Improvements in both the quality and efficiency of higher education could be achieved by systematic efforts to reduce drop-out and repetition rates.

The World Bank's 1988 policy study attributes excessive wastage and repetition to insufficiently developed selection mechanisms, the shortage of non-salary quality-enhancing inputs, and the general absence of incentives to reward good performance by staff and students.

Since the Bank study was published in 1988, notable gains have been registered in some of these areas. For example, governments have introduced greater selectivity into university admissions procedures in response to increasing

demand for higher education. In some cases (Kenya), they have announced in-take ceilings. In others (Zimbabwe), they have tightened admission standards as a way of controlling enrolment growth, or instituted university admissions examinations (Angola, Eritrea, Mozambique). Continuing economic stagnation in the region, however, has prevented efforts to augment quality-enhancing inputs. And while some notable initiatives were taken to introduce staff retention incentives (salary supplements, import privileges), these were often not tied to standards of performance.

Drop-out rates are generally related to the selectivity of the higher education system. The more selective the system, the lower the drop-out rate. Thus, systems based on the principle of mass access will have higher drop-out rates than those that limit access by screening entrants for talent and preparedness. For example, drop-out rates are lower in the more selective British universities than in the more open American system (*Her Majesty's Inspectorate 1989, p. 9*). To a certain extent, trade-offs exist between access and quality in higher education which require conscious policy attention, particularly where financial resources are tight and the need for well-trained graduates is acute. In the latter cases, it may be appropriate to pursue more selective strategies over the short-term and gradually expand access as needs and resources permit.

High levels of repetition are often the result of different dynamics. While poor secondary preparation, easy access, and overcrowding may be contributing factors, the cost/benefit equation for students is a major determinant. In many countries, students pay no matriculation fees and receive free room and board. They may also receive book allowances and pocket money. While students and their families may have covered part of the cost of their primary and secondary education, higher education is virtually free. This is particularly true in a number of Francophone countries. In a few extreme cases (such as Congo), student allowances may be higher than expected starting salaries for university graduates. Where this financial support is not tied to academic performance nor terminated when repetition occurs, students have every incentive to linger. It is not surprising that students may take two or three times as long to complete a four year program as should be necessary.

The financial cost of frequent student repetition to the state, and to the taxpayer, is high. The social cost —in terms of educational quality, transmission of inappropriate professional values, and institutional congestion that constrains access—is even higher. There is clearly a need to consider ways of encouraging positive academic performance, and to associate these with penalties for non-achievement. In several African countries, recent policy changes have made financial assistance conditional upon a student's academic performance (Mozambique, Zambia).

### *Creating a Culture of Quality*

What shapes the quality of the intellectual environment for higher education? In Africa, as elsewhere, quality is the product of a combination of factors. Principal among them are educational standards and incentives to uphold them, staff development and retention, educational inputs, research and post-graduate programs, and freedom of expression.

The challenge of preserving quality within Africa's universities can appear daunting. It is easy to point to the substantial budgetary erosion in the higher education sector, and to conclude that the only solution—albeit an extremely remote one—lies in the sizeable infusion of

additional funds. The possibility that management initiative can make a positive contribution to this problem may be overlooked or underestimated. While it is true that more resources, including foreign exchange, are needed for quality-enhancing educational inputs, much can be accomplished through managerial leadership and innovation. The following five steps are proposed as a strategy for preserving educational quality:

- Set and maintain standards throughout the institution.
- Provide incentives to encourage and reward quality work at all levels.
- Retain and develop promising staff.
- Guarantee a defined minimum of educational inputs.
- Keep equipment and buildings in good working order.

These five mutually reinforcing recommendations are now discussed further.

Standards. These are agreed upon norms that provide reference points for quality control. Where the process of defining standards involves consultation and participation by the groups to which they will be applied, standards also reflect a consensus of appropriate professional values, behavior and accomplishment under prevailing conditions. In academic environments, standards are reinforced at the level of the individual, the peer group, the institution, and the system. Although a wide range of institutional mechanisms exist to monitor and reinforce academic standards, an unwillingness to compromise on quality is also an institutional value that must be regularly communicated by the university's chief executive. It is important to publicly reaffirm a university's commitment to quality, as the Vice-Chancellor of the University of Malawi did in his 1987 congregation address. It is also equally important that the chief executive pay attention to even the mundane standards of building maintenance, as the Vice-Chancellor of the University of Zimbabwe regularly does, in order to create and maintain a culture of excellence.

At the level of individual self-monitoring, standards are most often communicated and assessed in terms of a professional code of conduct which imparts professional values and ethics. Many universities have written codes of conduct for academic staff. Some also have honor codes which apply to students. At a time when charges of corruption and mismanagement seem on the rise in Africa, renewed attention to the development and inculcation of professional standards can potentially pay long term capacity-building dividends by enhancing the quality of performance and the credibility of the actors.

Academic peers apply standards through collegial review of course syllabi, research methods, and professional publications. Evaluation of teaching and research is a tool for quality improvement. External examiners and visiting committees ensure that local standards are set against international norms, and that potential problems are brought to the attention of university management quickly. These external examiners and visiting committees play a vital quality control function in many university settings. Budgetary provision for the relatively modest resources that these activities require will be a wise investment. In Nigeria, program assessment and accreditation procedures are increasingly accepted by the country's universities as a legitimate part of the process to introduce greater quality control and rationalization with the national higher education system.

Incentives. Where resources are less plentiful than before and one encounters daily reminders of deteriorating working conditions, academic standards may fall victim to attrition. In these circumstances, sustained efforts must be made by university leaders to reaffirm standards and reward those who achieve compliance with them under difficult conditions. This can be done by ensuring that scarce resources are distributed on the basis of merit, and by regularly communicating—through the words and behavior of university leadership—that standards will not be compromised. In this way, a culture of quality can be created and maintained, even in the absence of additional budgetary resources.

For such an incentive system to work, university autonomy and management initiative are required. In many cases, updated job descriptions will be required, and procedures for annual performance appraisal will need to be modified or established. The University of Dar es Salaam, and some South Africa universities, have instituted teacher assessments at the end of courses. Criteria for excellence will need to be developed and accepted. In this process, excellence in teaching (the principal objective of the university) should be given full consideration in tandem with the more traditional measure of research output and publication. This, in turn, may necessitate some form of student feedback on classroom teaching or possibly a standardized measure of student achievement. The University of Botswana is currently considering a series of recommendations on these points.

First and foremost, performance should be linked to annual salary adjustments. The National Council of Science and Technology in Mexico assesses researchers' output annually through peer review, and awards salary supplements on this basis. Where the potential for salary increases is limited and overall salary levels compete poorly with non-academic employment opportunities, other incentives should be considered. These might include: (a) preference in staff development opportunities; (b) professional conference attendance; (c) assignment to a more comfortable office; (d) support for the individual's research interests; and (e) preference in assigning new equipment.

In some cases, university salaries may be insufficient to sustain a faculty member. Staff may consequently involve themselves in non-academic pursuits at the cost of their university commitments. This behavior undercuts the quality of university education by reducing the time that a lecturer can devote to class preparation, student advising and participation in the intellectual life of the department. The number of faculty should be brought into line with the budgetary possibilities for offering them a locally competitive wage. If such re-structuring is impractical for reasons that override the quest for educational quality, an alternative is to clearly define the time commitment that might be reasonably expected from the lecturer by the university at each particular salary step and establish accountability systems to ensure that this commitment is met.

Similar incentives and rewards may also be employed to encourage achievement among students. Renewal of government scholarships, for example, might be contingent upon a certain level of academic performance, or be withdrawn from a student who is forced to repeat a course. In addition to considerations of financial need, preferential choice of university student residences might also be extended to high-performing students. Publicly-awarded academic prizes or attendance at a professional meeting are other student incentives that might be considered.

Establishing a culture of quality is one of the most important undertakings that a university can assume. The norms and values that prevail

in the university environment will shape the expectations and behavior that students will take to their professional careers. Where students observe that their elders ignore professional commitments and compromise on standards, they will learn to do so. The result will be a weakening of the nation's capacity to manage its own economic and political affairs.

Staff Retention and Development. Programs are only as good as the people who run them. In Africa, gathering and maintaining good people in universities has constituted an abiding yet changing challenge over the years. Because colonial authorities invested little (or not at all) in indigenous human resource development, an initial goal was to localize university staffing to ensure that its intellectual and cultural milieu was consistent with national values and sensitive to national aspirations. This was a daunting undertaking given the long lead time necessary to produce a doctoral degree holder and the generally small pool of university students from which to draw such candidates. The magnitude of this undertaking is illustrated by the fact that in 1979—more than a decade after independence for many countries—expatriate lecturers constituted roughly one-third of the teaching faculty at 26 Anglophone and Francophone universities (*Hinchliffe 1987, p. 166*). That the challenge remains today is graphically underlined by the fact that 22 out of 45 African universities for which data are available still relied on foreigners to fill 20 percent or more of teaching positions in 1988.

Because there are so few functioning post-graduate programs in the region, staff development generally requires sending people abroad for training. This is a costly investment under any circumstances and particularly so for indebted countries saddled with severe foreign exchange shortages. Consequently, university staff development efforts are often at the mercy of foreign donors who supply the bulk of funding. And unfortunately, the resulting scholarships are as likely to be the result of individual or departmental agreements with donors as they are to be the response to a systematic staff development plan. Such approaches may be less than fully effective where the fellowship award process does not reinforce the individual's commitment to the institution, where training gives preference to donor priorities over those of the university, and where managerial, administrative and skilled technical staff are excluded from consideration.

Examples of more promising approaches exist. The University of Zimbabwe maintains a sizeable staff development fund constituted by untied contributions from several donors. The fund is managed in accordance with the university's staff development priorities and identified training needs. Eduardo Mondlane University in Mozambique is establishing a similar general staff development fund for valued academic and administrative staff who require training in areas not normally covered by donor programs. Recent experiments with "sandwich" programs at the doctoral level, whereby the student undertakes some coursework and dissertation defense abroad, but completes other work including dissertation research while in residence at the home university, have yielded encouraging results. This arrangement is less costly and allows the staff member to maintain greater involvement with the employing university, thus reducing the possibility of brain drain.

The marked deterioration in terms of service, particularly salaries, is the principal cause of attrition among academic and senior administrative staff. Individuals frequently invest substantial time and resources in obtaining advanced professional degrees only to discover that subsequent remuneration does not meet their expectations. Indeed, as noted in Chapter 3, salaries

may often be insufficient to permit family subsistence under conditions of full-time university employment. The result has been the steady loss of university staff, often the most talented, to non-university employment. Even where staff remain linked to the university, there is a strong tendency to limit time commitments to classroom teaching in order to pursue other income-generating activities. The result is poor preparation of lectures, infrequent student contact outside the classroom, minimal participation in university administration and policymaking, and a neglect of research.

The problem of poor remuneration stems in part from the fact that university salaries are pegged to civil service pay scales. Even though university staff may be much more highly trained than their civil service counterparts, the public payroll does not recognize their additional qualifications. For similar reasons, university management is generally constrained in its ability to recognize superior accomplishment through the use of differential pay increases or performance bonuses. As a result, universities find themselves at a clear competitive disadvantage compared to parastatals and the private sector in the hiring and retention of staff. Universities' inability to extend competitive offers to their best talent produces a growing trend towards youth, inexperience and possibly mediocrity in academic staffing patterns. These characteristics are not necessarily bad when taken on an individual basis. When they characterize an entire institution (and in the absence of concrete incentives to the contrary), the pursuit of academic excellence becomes nearly impossible.

Universities are well aware of this problem and many, through concerted political efforts, have been able to win at least partial solutions. In Mozambique, Zambia and Zimbabwe, for example, universities have been able to argue successfully for special status in salary treatment, and have won concessions in the form of special salary supplements. In Ghana, universities were permitted to pay an "inducement allowance" in the 1980s equal to 50 percent of base salary. But these solutions tend to be temporary. Differential pay may be eroded by pressures in other parts of the civil service to adopt the same model, thereby requiring regular political lobbying to preserve the university advantage. It is also generally uncompetitive with the private sector, including donors and certain non-governmental organizations, who will always be able to outbid the public sector for scarce talent as long as the return on this investment can be justified.

Universities have not been successful in delinking university terms of service from government pay scales. To attract and retain capable staff, universities will have to pursue the quest for greater management autonomy with more vigor. Flexibility of management initiative and responsiveness on a case-by-case basis is essential if the present situation is to be turned around. Universities (and the donors that often support their staff development programs) cannot afford to invest US$100,000 in training a Ph.D. only to lose him or her for want of a US$100 per month salary increment. Even the most committed scholar will put family needs ahead of professional advancement if the latter offers little in the way of long-term prospects.

One solution may be for universities to receive their government subventions in the form of block grants which could be managed at the discretion of university leadership. In return, universities would need to develop appropriate mechanisms of accountability in order to provide necessary evidence to government that its monies are being used efficiently and well. Ways in which this need might be met were discussed in Chapter 4. One promising strategy, currently being pursued by the University of Botswana, is to re-define the university's legal statutes so that

it acquires a status—and associated management autonomy—akin to that of parastatals.

Within the confines of their limited resources, universities are seeking to slow these negative trends. They are doing so by permitting more flexible work hours so that faculty can pursue secondary employment or engage in consultancy work, or by extending non-monetary rewards. For example, faculty in Kenya were recently exempted from payment of import taxes on automobiles. At the University of Ghana, Legon a small budgetary surplus generated by a reduction in non-academic staff has been used as a fund to supply faculty attendance at regional scientific meetings. The University of Dar es Salaam has established, with assistance from GTZ and the Swiss Development Corporation, a research fund within the Faculty of Engineering which supplements staff salaries in return for an explicit time commitment to research or other university activities beyond the normal time expected for teaching and university affairs. Makerere University in Uganda gives preference to interested staff in the award of its contracts for goods and services. A number of universities are also establishing university consultancy units designed to generate additional sources of income for staff.

The best solution to the staff retention problem may be a package approach based on local conditions that allows flexible application in accordance with individual situations. Such a package may include benefits (pension), amenities (housing, car), working conditions (office space, furniture and equipment), professional growth (post-graduate study, professional meetings attendance, access to current journals and books) and research support. To some extent, these benefits and resources should be allocated on the basis of performance and merit. In this way, incentives for increased quality are created and the most productive staff may be retained. For this approach to work, the introduction of clear job descriptions and some form of staff appraisal may be necessary.

In the future, it seems plausible that AIDS will constitute a growing cause of staff attrition in African universities. WHO estimates that there are currently 6.5 million cases of HIV infection on the continent, with levels of infection reaching 15 to 25 percent of the adult population in ten countries. Studies in various African nations have demonstrated that HIV infection tends to be found disproportionately among the higher trained portions of the population. Barnett and Blaikie (*1992*) note that "*Seroprevalence in some African universities is reputed to be very high, and poses important ethical and economic problems regarding the right of access to higher education without AIDS testing, and the future rates of return to such education without such testing.*" Indeed, the University of Zimbabwe reportedly requires AIDS testing of all its staff development fellows before their departure for overseas training. At a minimum, preventative AIDS education for students and faculty should be a routine activity on all campuses, as it is elsewhere in the world.

Educational Inputs. *"There is now a substantial body of research which demonstrates the importance of textbooks and supplementary materials in increasing student performance and academic achievement. Book provision is widely regarded as being the single most cost-effective factor in upgrading educational quality. Within the total education budget, book provision is a very small item, even in developed countries. University library standards tend to recommend around 5 percent of total university budgets on stock acquisition. ...Investment in book provision is a minor part of educational spending, and yet has an importance in educational performance out of all proportion to the size of the investment"* (*Buchan and others 1991, p. 65*).

This is as true for higher education as it is for other educational levels. In university after university, observers report that the principal—and sometimes the only—study reference for students is their own handwritten notes summarizing classroom lectures. In Angola, the university operates almost without textbooks, often relying on photocopied materials. In Nigerian universities, textbooks are in short supply, and often unavailable for science and technology courses. In Senegal's main university, the library's acquisitions budget has remained unchanged for ten years, leading to a sharp drop in its effective purchasing capacity. Overall, Francophone universities spend 2.7 percent of their budgets on educational materials, whereas Anglophone universities spend 0.6 percent (*Orivel 1988, p. 8*).

These conditions are inadequate in the best of circumstances, and pose a particular liability under the conditions of classroom over-crowding and high student/staff ratios that prevail in a growing number of countries. In Francophone Africa, for example, the impact on educational quality is clearly discernible. "*As a result of the limited number of journal subscriptions that diminish from year to year, some students can complete their studies without ever having seen examples of journals fundamental to their disciplines*" (*Assie-Lumumba 1992, p. 17*).

Because of differing national conditions, no universal book policy can be offered. However, any effort to address the problem of book access should consider the following guidelines:

- Identify needs and priorities in book provision. Textbook supply is fundamental, and library support is equally important. They encourage the habit of using reference resources for problem-solving.

- Establish standards, target book/pupil ratios, and book life assumptions. These are the bases of costing decisions and are essential for financial projections.

- Create an affordable and sustainable financing mechanism. Many governments are moving towards policies of at least partial cost-recovery for textbook provision.

- Develop viable, effective and economical curricula. Courses with too many textbook requirements have financial and pedagogical liabilities. Frequent changes in curricula have similar negative consequences for costs and academic performance.

- Encourage academic authorship by allowing authors a royalty share. Provide a legal framework to protect intellectual property. Promote cooperation in publishing between African universities and local commercial publishers, or among African universities in a sub-region.

Trade-offs between book imports and local publishing will have to be decided in each national context. It is obviously desirable that courses with significant nation-specific content (history, geography, social studies) should be produced locally. In Nigeria and Kenya, larger local markets have encouraged the development of local book publishing, and some university textbooks have been produced as a result. At Addis Ababa University, staff have recently written, tested and published nearly a dozen textbooks, mainly in the science disciplines (for example, flora and fauna of Ethiopia). At Eduardo Mondlane University in Mozambique, part of a projected World Bank loan will be used to contract the preparation and publishing of textbooks and course manuals by academic staff. At the University of Zambia, textbooks have been imported and made available to students through a book loan scheme.

University libraries are the foundation of a country's academic standards and research capability. Without access to recent developments worldwide through current books and journals, no original research is possible. These reference materials come from international sources and require increasingly scarce foreign exchange for their purchase. As these financial resources have been consistently allocated to other priorities over the past decade, university libraries have suffered substantially. For example, the University of Ibadan subscribed to over 5,000 journals in the 1970s; today it receives just 300. Mechanisms which enable local currency to be used for payment of international journal subscriptions, such as expanded use of UNESCO coupons, will be essential for sustainable solutions. In the meantime, stop-gap measures such as the US$1 million per year journals distribution program managed by the American Association for the Advancement of Science, and similar programs by the Commonwealth Higher Education Support Scheme (CHESS) and the French government, play a vital role in helping African universities maintain access to scientific information.

A few African universities, such as those in Addis Ababa and Zimbabwe, maintain impressive libraries with relatively current collections. More common, however, are university libraries characterized by a host of difficulties. Their acquisition budgets are static or declining, and they lack access to foreign exchange. Buildings are dilapidated and contain deteriorating furniture, shelving and air conditioning. They lack study and reading space. Poor security under conditions of book scarcity produces theft and book mutilation. Poor internal communications and distribution channels prevent inter-library lending and other cooperative activities (*Buchan and others 1991, p. 57*).

These circumstances have prompted growing African interest in CD-ROM (Compact Disk-Read Only Memory) technology as a partial solution. The CD disks can store huge volumes of information, require little storage space, can be shipped at very low cost without special handling, and do not need highly specialized equipment for their use. An IBM-compatible computer with 640K of memory is sufficient to run the system. As this market expands, the system components are becoming cheaper. Since a number of suppliers are now offering CD-ROMs on multi-user systems such as Local Area Network, this will further reduce the overall cost.

Besides its enormous capacity to store information, CD-ROM has several other advantages: (a) there are no telephone charges or data-base royalties; (b) the user can proceed at his or her own pace, modifying and extending searches as necessary; (c) references can be printed out with no additional charges; (d) users are not required to be familiar with thesauri or special lists of subject headings; (e) disks do not deteriorate in tropical environments or suffer from mildew; and (f) data are not lost as a result of power cuts (*Wright 1990*).

In 1990, the American Association for the Advancement of Science (AAAS) undertook a survey of computer and CD-ROM capability in the libraries of 106 African institutions, 94 of which were universities or research institutes (*Levey 1991*). The survey showed that 48 libraries possess computers, most of which are IBM-compatible. Computerization is a relatively recent phenomenon in these libraries, normally having occurred during the last three years. Typically, the libraries own just one or two computers; none yet has a local area network. Six of the responding libraries appeared particularly well equipped: the universities of Zimbabwe, Nairobi, Mauritius, Malawi, Botswana, and the documentation center at Sudan's National Council for Research.

Sixteen of the responding libraries also possess CD-ROM equipment, and four others are expected to obtain this technology during 1991. Universities with this capacity include: the University of Botswana, Addis Ababa University, University of Ghana Medical School, University of Nairobi, University of Malawi, University Cheikh Anta Diop of Dakar, University of Khartoum Medical School, and the University of Zimbabwe Medical School. Because these systems can only be acquired with foreign exchange, donors have been instrumental in their procurement.

Libraries have often experienced difficulty in installing their CD-ROM units. In some cases this was due to incompatible hardware or the absence of a key piece of equipment. A major problem has been the lack of in-country familiarity with CD-ROM, which is still a new technology on the continent. Careful attention to the training of library staff must be a part of any effort to incorporate CD-ROM technology. Currently, technical support for such information and communications technology is increasingly available through programs sponsored by the Commonwealth of Learning (for Anglophone Africa), the Association des Universités Partiellement ou Entièrement de Langue Française-AUPELF (for Francophone Africa), and Volunteers in Technical Assistance-VITA. Recognizing that information access is only part of the problem, the AAAS is organizing a series of workshops on strategic library development.

The University of Cheikh Anta Diop is among the more advanced in incorporating CD-ROM capacity. It subscribes to seven different abstract services in a range of disciplines. It has published two user-friendly brochures which describe the CD-ROM system for users and explain how it can be used for research. Medical School librarians at the universities of Ghana and Zimbabwe produce quarterly bulletins with bibliographic updates and abstracts.

The AAAS concludes that university and research libraries in Africa have already begun to benefit from these new information technologies, and that the impact of these innovations will increase dramatically in the years ahead. Under conditions of economic austerity, CD-ROM offers a viable alternative to bibliographic databases. It will become even more attractive as full-text literature becomes routinely published on compact disks, as has already begun to happen. In the meantime, however, compact disks could be used to gain access to current annotated bibliography and identify articles of interest. The actual references might be obtained by using the VITASAT system to link directly to full bibliographic data bases. VITASAT is a non-profit communications system developed by Volunteers in Technical Assistance (VITA). It is based on low-cost technology and uses a low-earth-orbiting satellite to transmit "packets" of digitalized computer information via radio airwaves (*VITA 1991*).

At an international level, many scientific and technical disciplines rely increasingly on computerized networks for access to information resources and scholarly exchange. As important as library holding and CD-ROM capacity may be, in the long run African universities will need to consciously develop "information literacy" if they are to avoid intellectual and technological marginalization in the 21st century. The University of Zimbabwe is currently seeking to establish such a computerized science and technology information system. Other African universities are encouraged to consider similar initiatives, including a proposed African network of Informatics Research and Development Centres (*Hayman 1992*).

Institutionalizing Maintenance. Maintenance of university buildings and equipment is a little recognized problem which has a direct bearing on educational quality. Where classrooms are

poorly lit, bathrooms do not function, and laboratory equipment is broken, student learning becomes more difficult. As the financial crisis in African universities has deepened, the accumulated cost of deferred maintenance over many years becomes considerable. And the problem becomes more acute where institutionalized maintenance programs do not exist. Concerted attention to establishing such maintenance programs not only increases the effectiveness of university teaching and research programs, but also promotes among staff and students a general culture supportive of technological change.

Equipment maintenance has generally not been considered as an integral part of donor funding for equipment purchases. This undermines the purpose of donor investments. Experience suggests the following guidelines for universities and donors engaged in equipment acquisition: (a) consider maintenance needs from the outset in any proposal for equipment purchase and make budgetary provision for them; (b) analyze existing problems before considering specific purchases, including the use of registers to monitor present performance and identify the main reasons for breakdowns; (c) assess local capacities for technical support among equipment manufacturers' representatives as input to purchasing decisions; (d) train both equipment users and maintenance technicians as an essential next step; (e) define a program of preventative maintenance; and (f) designate clear responsibility for managing this maintenance program (*Lakhloufi 1991*).

Several African universities have responded creatively to the maintenance challenge. The University of Sierra Leone has introduced a course on maintenance within its engineering department. In response to the problem of retaining skilled maintenance technicians, the University of Dar es Salaam allows its maintenance workers to use university tools and installations for private income-supplementing work after hours. Eduardo Mondlane University gives its technicians a portion of the income they earn from university equipment maintenance contracts.

*Box 6. Equipment Maintenance Results at l'Hôpital d'Enfants in Rabat, Morocco*

> In spite of sizeable government and donor investments in equipment purchases at l'Hôpital d'Enfants in Rabat, Morocco, the absence of a regular equipment maintenance program, appropriately trained staff, and an associated budget allocation produced frequent equipment breakdowns. With assistance from the Centre National de la Recherche Scientifique et Technique, the Hospital attacked this problem by carrying out an inventory of all equipment, moving towards equipment standardization, informing staff of correct equipment use and preventative care, training a small group of maintenance technicians, and obtaining an increased maintenance budget. At the end of one year, the equipment breakdown rate had been reduced from 21 percent to 5 percent, with a considerable increase in productivity and reduction in repair costs.

### *Minimum Financial Requirements for Preserving Quality*

To a large extent, the decline in quality which took place in many African universities during the 1980s was the result of incremental adjustments to steadily declining real resources, often in the face of enrolment expansion. Given hard budgetary choices, university managers sought

accommodation by postponing less immediate expenditures to guarantee coverage of critical running costs. Thus staff salaries were frequently favored at the expense of textbooks, library acquisitions, other educational inputs, research, staff development, and maintenance of equipment and buildings. While such a strategy may well be appropriate as a short-term response to a budget shortfall, it can prove disastrous when pursued consistently over a decade. The ultimate result is to undercut the essential university objectives of teaching and research, and to isolate the African academic community from the mainstream of intellectual life.

If quality is to be restored to the African academic environment, this pattern must be reversed. Previously postponed expenditures must now be given priority in budget allocation. One admittedly radical strategy would be to ensure that the minimum financial requirements of non-salary necessities are covered from the outset.[12]

Earlier it was argued that the generation of new knowledge and understanding through research is, more than any other activity, the distinguishing feature of universities. Indeed, without research to inform the content of teaching, universities would be little more than glorified post-secondary schools. For this reason, the first step to preserving quality would seem to be a guarantee of funding for research. The Association of African Universities recommends that increased budgetary allocations be made by governments for this purpose (*AAU 1991, p. 40*). Let us say that this amount constitutes 5 percent of the university budget. However, research by itself is unlikely to be productive if it is not informed and challenged by the work of other scholars. Access to current scientific thought as communicated in books and journals is an essential condition for research. To ensure that this condition is met, the AAU urges that at least 5 percent of university budgets be set aside for library development (*AAU 1991, p. 40*). To be effective, research and teaching require the provision of basic equipment and infrastructure in good state of repair. To ensure this, an additional 5 percent of budget might be allocated for equipment and building maintenance. Finally, academic (and also administrative) staff need to develop and replenish their intellectual capital from time to time through short or long-term training, and through the opportunity to test their ideas against their peers. Staff development, including the possibility of occasional attendance at professional meetings, constitutes a necessity for maintaining intellectual assets. A further 5 percent of budget might be reserved for this purpose.

If this strategy is pursued, the minimum financing required to ensure university compliance with its mandate for higher level professional training and research would necessitate an off-the-top commitment representing 20 percent of the institutional budget. University managers would then have to take a hard look at how the remaining 80 percent might best be employed. In most cases, this amount would be unlikely to allow a continuation of status quo operation, and structural changes might well be the only avenue for bringing commitments into line with availabilities. Among the options achieving this balance would be an increase in student/staff ratios, a ceiling on enrollments, a reduction in student welfare expenditures or non-academic services, cost-sharing, additional income-generation, increased operational efficiency, suspension of low-demand programs, and lobbying efforts

[12] The ideas in the following paragraphs are derived from a paper by Lennart Wohlgemuth of the Swedish International Development Authority (SIDA) entitled "Minimum Financial Requirements: Case Studies of Three African Universities," which was presented at the Accra meeting of the DAE Working Group on Higher Education in December 1990.

to win a larger government subvention to the education sector. Detailed discussion of these various possibilities is contained in earlier chapters. Choices among these options would depend on the local conditions in each case and the best judgment of those decision-makers charged with responsibility for national human resource development. However, it is difficult to imagine that quality university education can be preserved or restored in a number of African nations without resorting to a strategy akin to that outlined.

# 10

# *Managing Social Demand: Access and Equity*

Burgeoning population growth, rapidly rising numbers of secondary graduates and persistent economic stagnation combine to make managing the social demand for access to higher education the single most difficult task faced by the tertiary sector in Africa today. The magnitude of this task is illustrated by Table 14. Using selected countries, it projects their likely university student populations if current conditions are maintained. This is done by applying their present gross enrolment ratios for university students within the 20-24 year old age group of the population to the numbers of 20-24 year olds projected for these countries in 1995 and the year 2000. The resulting figures—which reflect population growth alone and do not take into consideration the rate of enrolment growth at the secondary level—suggest what the university population might be in each case if this enrolment ratio (and the policies that produce it) remains unchanged.

The results imply that, at least in some cases, university admissions will have to become more selective. It is extremely unlikely that governments or donors will be able to underwrite the physical expansion of already overcrowded universities to the extent that would be needed to accommodate the present rate of flow for university students. This suggests that, barring macro-economic improvement in the region, access to higher education is likely to become more restrictive as the number of candidates increases.

Where high population growth is accompanied by significant expansion of secondary education enrollments, the rising expectations of this growing pool of university candidates and their families may exert irresistible political pressures. In Kenya, for example, President Daniel arap Moi was moved in 1988 by parental pressures to set aside a decision by the country's four universities to admit a quarter of the 13,832 students qualified to enter the universities in that year, and ordered them to enrol almost all of this number. Similar pressures led an extraordinary 21,450 students to be admitted in 1990. This resulted in an instantaneous doubling of university enrollments without any accompanying provision for facilities expansion. Overall, Kenya's university enrollments have surged from 8,900 in 1984 to 41,000 in 1991, an increase of 361 percent.

The situation of Francophone universities is different but equally critical. All students who obtain the *baccalaureate* degree by passing a secondary-school-leaving examination are automatically admitted to the university. As secondary education has expanded, the numbers of

*Table 14. Projected Tertiary Enrolment Increases in Selected Countries: 1991-2000*

| | *Ghana* | *Kenya* | *Nigeria* | *Senegal* | *Zimbabwe* |
|---|---|---|---|---|---|
| Population 20-24 yrs., 1990 | 1,308,000 | 2,029,000 | 10,134,000 | 650,000 | 920,000 |
| Population 20-24 yrs., 1995 | 1,538,000 | 2,498,000 | 12,090,000 | 800,000 | 1,086,000 |
| Population 20-24 yrs., 2000 | 1,843,000 | 3,404,000 | 14,508,000 | 915,000 | 1,125,000 |
| Gross enrolment ratio, 1991 | 0.7% | 2.0% | 1.6% | 2.9% | 1.1% |
| Tertiary enrolment, 1991 | 9,300 | 40,500 | 162,140 | 18,850 | 10,000 |
| Tertiary enrolment, 1995 | 10,766 | 49,960 | 193,440 | 23,200 | 11,946 |
| Tertiary enrolment, 2000 | 12,901 | 68,080 | 232,128 | 26,535 | 12,375 |
| Percent increase, 1991-1995 | 15.8 | 23.4 | 19.3 | 23.1 | 19.5 |
| Percent increase, 1996-2000 | 19.8 | 36.3 | 20.0 | 14.4 | 3.6 |

*Source:* World Bank, Education in Sub-Saharan Africa: Updated Statistical Tables, 1990.
World Bank, Africa Region Population Projections: 1990-91.

university entrants have become unmanageable in many countries. Cameroon, for example, has seen its university student population double during the 1980s. Its main university now accommodates 40,000 students on a campus designed for 8,000. The government projects that its currently overburdened university system could reach 100,000 students by the end of the decade if current policies are maintained (*Ngu 1992*). The financial implications of this trend, given that many students receive government scholarships, are staggering.

These cases illustrate the challenges faced by governments in their attempts to manage the rising social demand for university education. The inability to plan for and manage university enrolment growth adequately has contributed directly to the skyrocketing costs of non-academic expenditures in higher education, particularly in Francophone countries, and constituted a major cause of declining quality in university education. And when countries have sought to contain costs by reducing student allowances or introducing elements of cost-sharing, organized student response to this threat has frequently been swift and violent.

Since student activism has the potential to topple governments, political leaders are wary of actions which might stir student dissent. Student opinions frequently reflect the sentiments of parents and relatives who in the aggregate make up much of the middle and upper classes in these countries. As population density rises in the countryside and as access to arable land becomes increasingly difficult, the economic base of rural families is squeezed. As their agricultural options dissolve, families place growing emphasis on access to education—and particularly higher education—as an alternative survival strategy for the family and extended kin (*Assie-Lumumba 1992, p. 20*). If even one individual out of a family group is able to obtain

a salaried position in the city, African traditions of kinship solidarity ensure that the entire extended family will benefit. Any attempt to limit access to higher education is perceived as a threat to family welfare, and will trigger a strong emotional response. As a result, government desires to contain university growth and link expansion with cost-sharing may be held hostage by student activism.

How might the demand for higher education be better managed? Four policies may be considered as a possible response. They are: (a) create a more differentiated higher education system which offers a wider range of options to potential students; (b) manage access through the use of selection procedures; (c) pursue financial diversification, and particularly cost-recovery, to maintain financial equilibrium; and (d) ensure that possible social, gender and ethnic inequities associated with the system are recognized and addressed. Financial diversification has been discussed in Chapter 5. The other three policies are discussed now.

### *Differentiated Systems*

For governments who would like to expand access to higher education without prompting proportional growth in public sector budgets for education, system differentiation provides a solution. *"The most effective approach is an institutional diversification strategy whereby the social demand for higher education is managed through the development of a variety of lower cost alternative institutions differentiated in terms of missions, function and modes of delivery..."* (*Salmi 1992, p. 6*). This will permit a higher education system to accommodate a growing and diverse student body while meeting the labor market's needs for varying levels of specialized skills and offering students an increased range of choices. A differentiated higher education system might include some or all of the following institutional types: traditional colleges and universities, community colleges, polytechnics or technical institutes, adult or continuing education programs, productive sector training programs, and distance learning programs.

All of these can be publicly or privately managed. Private higher education programs can make significant contributions in expanding educational access. Private institutes are often more efficient and flexible in responding to changing demands from students and employers. The performance of private institutions, which frequently specialize in a limited number of low-cost disciplines, may not always be provided at desirable levels of quality. Establishment by government of an appropriate structure for the accreditation and supervision of private educational programs can do much to ensure that private higher education programs make a positive contribution to the country's human resource development.

When higher education systems are more differentiated, they can accommodate a larger and more diverse student body in cost-effective ways. Shorter courses and community-based programs make it easier for students to finance their studies, or to combine education with employment. Continuing education and in-service training programs enable workers to upgrade their professional skills and improve their earning capacity. Distance learning programs reach out to rural areas, the handicapped and disabled, or others unable to participate in classroom instruction. Differentiated systems are most efficient, however, when they provide students with common pathways for learning mobility based on recognized courses and standardized academic credits. This subject is discussed more fully in Chapter 8.

In Africa, system differentiation is generally at an intermediate stage. Where a country possess-

es more than one university, there may be a division of labor in which each institution is given a primary responsibility (science and technology, teacher training, agriculture). Polytechnics are frequently found and teachers colleges are common, but tend to be accorded a clearly inferior status by students and governments. Community-based colleges have not yet emerged, although Nigeria's state universities could presage this possibility. Private education and continuing education programs are as yet poorly developed, but there is growing activity in these areas. Distance learning has focused more often on adult education at the primary and secondary level in most countries, with South Africa having the most developed open university on the continent. Systematic policy attention to achieving greater institutional differentiation within the higher education sphere has the potential to sharply expand access to higher education while improving its cost-effectiveness.

Even where higher education systems are differentiated as to institutional missions, they are rarely differentiated in their financing. As noted in Chapter 5, African systems of higher learning receive 85 percent or more of their funding from government. Until these systems achieve greater financial diversification, the possibilities for expanded access will be limited by the possibilities for governmental budget expansion. Where government budgets are not growing, the social demand for higher education is being accommodated by overcrowding university facilities, diverting excess demand to diploma programs and teacher colleges, and by financing this growth at the expense of funding to primary and secondary education or support to other social and economic sectors. These are not the best solutions.

### *Distance Learning*

Distance learning programs appear among the least developed components of African higher education systems. They are frequently effective in expanding access for groups not commonly represented within the university. Since the populations of most African nations are predominately rural and located far from universities found in the principal cities, distance learning merits attention as a potentially effective means of expanding access to higher education. This should be done carefully, however, as the cost per student may be much lower than the cost per graduate. In fact, distance education programs may have completion rates of less than 20 percent. As a result, costs per graduate for distance learning programs may be roughly equal to those of conventional universities (as in Canada), somewhat below the costs of conventional universities (as in Costa Rica, Venezuela, Japan), or significantly lower (as in Thailand). However, where these programs have large enrollments, or where the distance teaching materials are purchased from existing programs rather than developed locally, significant savings appear possible (*Commonwealth Secretariat 1987, p. 2*).

The obstacles to establishing an effective distance education program are considerable. To be economically viable in developing countries, the number of students has to be fairly large. The Asian experience suggests around 50,000 students. The initial capital outlay may be high, particularly where materials are locally developed. The need for highly skilled staff may absorb talented professionals from other sectors. Management can be complex and reliable communications systems are essential. Finally, viable self-learning requires highly motivated and mature students.

African experience with distance education is limited. Much of this has been concentrated on teacher training for primary education, adult literacy, and secondary education. Most programs have relied largely on printed correspon-

dence materials, although radio has sometimes been used as a supplement. A 1980 survey of Commonwealth countries identified thirteen distance education programs in ten countries (*Jenkins 1980*). Six of these had enrollments under 1,000; the largest was the National Correspondence College in Zambia with 14,300 students.

Not included in the survey was South Africa's open university, UNISA, which had 120,000 students in 1991. Once majority rule has been achieved in South Africa, UNISA seems likely to constitute a major regional resource for distance learning in Southern Africa. Indeed, even now it draws some 15,000 students from neighboring countries. UNISA staff note that the principal obstacle to expanded operations in Southern Africa is students' lack of access to books and reference materials. To this end, UNISA has been attempting to establish a course-related reference library in Zimbabwe.

In sum, distance learning requires careful assessment as an instrument for expanding access to higher education in Africa. Where there is a large national or regional demand from a geographically scattered population, the initial resources for upfront investment are available, communication channels are functional, and study materials can be purchased or used in partnership with an existing program, distance education can be a viable option. Mozambique is exploring the possibility of a collaborative endeavor with UNISA in which existing materials might be translated into Portuguese, and existing methodologies adapted for use in a different operational environment.

### *Selective Admissions*

Efficient and equitable selection mechanisms are necessary in order to allocate students effectively within a differentiated higher education system. Each institution needs to define its niche within the overall system and choose its students accordingly. Some institutions will require higher degrees of selectivity than others. Efficient and objective selection procedures are needed to identify the most promising students in an equitable manner (*Salmi 1992, p. 6*).

A key component of a selection procedure is likely to be some type of competitive entrance examination. Such instruments have been used in the Anglophone countries for some time. Initially these exams ensured that students possessed the minimum qualifications necessary for university study. Now, however, they are increasingly employed to identify the most capable candidates for university admission. Entrance examinations have very recently been adopted in the Lusophone countries of Angola and Mozambique as demand for access grew faster than universities' capacity to accommodate new students. Because the Francophone countries employed a school-leaving examination, selective admissions procedures have not yet emerged. They are, however, now under discussion in several countries buffeted by surging enrollments (Cameroon, Senegal).

Selection examinations must be carefully developed and administered. They must be consistent with the pedagogical goals of the national education program because secondary schools will quickly adjust the content and emphases of their curriculum to improve the admission chances of their students. If the exams are found to contain biases or their confidentiality is breached, the process will lose credibility.

### *Equity of Access*

*"Higher education is one of the ways society selects its future elites"* (*Klitgaard 1991, p. 1*). The quality of students chosen affects the quality of a country's future leadership, its capacity to

compete in regional and world economies, its long-run chances for developmental progress, and even its political stability. The elite nature of university graduates, together with the fact that university education is publicly subsidized, also makes university access a contentious political issue and produces social demand which far exceeds the supply of places (*Klitgaard 1991*). Selection policies and procedures must be seen as fair if the result is to be accepted as legitimate.

Considerations of quality and representativeness interact to produce the specific selection policies in each country. Achieving the right balance is not easy. A nation's best potential minds—regardless of gender or ethnic background—should be given the opportunity for full development. But the country's future leadership should be broadly representative of all of its social groups to ensure that the pluralistic perspective they bring to bear on the nation's affairs both enriches and balances public decision-making. Recent experiences, particularly in attracting more women into higher education, offer guidance as to how these goals might be pursued.

Gender Representation. Women-specific institutional initiatives appear to have produced a positive impact on women's participation at all levels of the education system in several countries. Notable among these experiences is Nigeria. A Women Education Branch was created within the Ministry of Education in 1986. Its objectives are to promote public awareness of the benefits of educating women, and to provide women with improved opportunities for formal and non-formal education. As at least a partial result of the Branch's considerable efforts, female enrollments in the primary schools increased over a five year period from 29 percent to 45 percent in Kano state, and 35 percent to 50 percent in Kaduna state. As these girls advance through the educational system, positive impact at the tertiary level can be expected.

In Nigeria, a National Association of Women in Science, Technology and Mathematics was established. It has sought to expand female participation in science-based courses by means of a national awards scheme and a motivational "road show". Although this experience is still too new for useful assessment, it is promising.

In Uganda, Makerere University demonstrated what can be accomplished by committed leadership on behalf of women. Holding that a 1990 student body containing 21 percent women was unrepresentative, the university undertook to recruit additional women students. It weighed admission examination scores by an additional 1.5 points for women candidates. The percentage of women admitted increased from 23 percent in 1989/90 to 30 percent in 1990/91.

In Ghana, universities have accepted the need for increased female participation and have decided to allocate residence hall space in accordance with the number of women admitted. This removes limited space available in women's residence halls as an artificial constraint on women's access to university (*Sutherland-Addy 1992, p. 28*).

What constrains the progression of women students into the ranks of university teaching and administrative staff? This question impelled a rare study of women's academic careers conducted at the University of Zimbabwe. The study found several constraints to women's employment and professional advancement within the university. They include: dual career conflict between professional obligations and home/family responsibilities, a declining proportion of girls in upper secondary school during the 1980s, constraints on women's mobility that

reduce their participation in staff development activities (post-graduate training, sabbatical research, conference attendance), and cultural values that restrict women's career aspirations. For example, although women's academic performance was equal to that of men, fewer women chose to pursue post-graduate studies. These reasons, together with perceptions of female discrimination, have contributed to the under-representation of women on the university's academic staff (particularly academic administrative positions), their concentration in lower academic ranks, and their lack of participation on decision-making committees.

The study proposes the use of targeted staff development fellowships, greater flexibility in fellowship conditions to accommodate dual career situations, the use of staff development funds for research leaves that would assist women to produce the publications necessary for promotion, expanded day care facilities, and affirmative action appointments of qualified women to academic committees and administrative positions (*Dorsey, Gaidzanwa and Mupawaenda 1989*).

A similar study in South Africa (*UDUSA 1992*) attributed women's unequal representation to differential terms of service between men and women, the absence of university child care facilities, general discrimination, and women's heavy home responsibilities.

A particularly promising strategy for encouraging women's professional advancement is currently being tested at the University of Swaziland. Having identified low research output as a frequent barrier to the promotion of female faculty members, a Women's Research Group was formed in mid-1991. The group will support women's research efforts by holding workshops on proposal preparation (to which male staff are also invited), raising funds for research, and organizing other types of assistance. In this way, women hope to advance their own cause while demonstrating positive leadership within the university and expanding its institutional research program.

Efforts to expand the numbers of women managers in African universities are likely to receive support from a current initiative coordinated by the Association of Commonwealth Universities and the Commonwealth Secretariat. It seeks to provide a range of professional training and support services to women occupying administrative positions in Commonwealth universities. As this small group of women is assisted in their professional advancement, it is hoped that they will be able to gradually dismantle the various barriers that now impede women's access to managerial positions within higher education institutions.

Ethnic Representation. The integrative role of universities—and its contribution to national unity and political stability—deserves attention as national higher education systems begin to move from mono-university to multi-university systems. As second and third universities are established outside the capital city, these would do well to ensure that students are nationally representative, and not drawn primarily from an ethically homogeneous sub-region. To not do so will reduce the enrichment of the educational experience that comes from diversity, and the tolerance that is developed through exposure to alternative viewpoints.

At the same time, universities are encouraged to avoid establishing a system of explicit regional quotas for admission as this could undermine their efforts to enhance quality and output efficiency. The use of quotas—discrete allotment systems currently function in Burundi, Kenya, Rwanda and elsewhere—could also create precedents that might be difficult to re-consider later.

Instead, it is suggested that universities may wish to set clear goals for regional and gender representation among incoming students over a three to five year period. A mechanism could then be established to monitor progress towards these goals, identify possible constraints, and propose remedial action as may be necessary. Ultimately, however, issues of equity and ethnic representation in university enrollments may best be addressed through corrective action at the secondary level.

### *Conclusions*

Managing the growing social demand for higher educations is the biggest challenge faced by African university systems. The following guidelines are offered for the consideration of governments wrestling with this problem.

- Expand access but control unit costs and improve internal efficiency by evolving a differentiated system of higher education institutions that offers a range of low-cost options for tertiary study.
- System growth is best controlled by managing the inflow of new students through the use of a fair and objective admissions examination.
- Equity and quality can be served by efforts to incorporate talented women and ethnic minority students.

# 11

## *The Role of Donors*

International development assistance will play a prominent role in efforts to stabilize and revitalize African universities. This is because severe financial constraints at the national level have, in many cases, reduced government funding for higher education to salary support and essential operating costs. Funding for new initiatives, pilot projects, and special investments is most likely, at least in the short-run, to come from outside sources. But donor policies must be modified if their assistance is to be effectively applied in support of higher education renewal.

International donors have contributed substantially to the development of African universities since independence. During 1981-83, for example, higher education received 34 percent of direct education aid from external sources—an amount equivalent to US$575 per student (*World Bank 1988, p. 103*). In the Francophone region, aid per student was US$930 (*Orivel 1988, p. 10*). Earlier donor support was holistic and sought to build centers of excellence (Dakar, Ghana/Legon, Ibadan, Makerere). Unfortunately, it often did so through the promotion of the high-cost residential models that have now contributed to the financial vulnerability of higher education systems.

During the 1980s, total external assistance to African universities declined, even as these systems expanded. Although average annual foreign assistance to education remained fairly constant, higher education's share of this dropped from 34 percent in 1981-83 to 25 percent in 1984—and possibly further towards the end of the decade (*Orivel and Sergent 1988*). Given the extensive droughts and widespread civil strife that made famine a constant condition in many parts of the continent during this period, this redirection of donor funding is understandable. Donor policies were also influenced to some extent by World Bank arguments, based on comparative rate of return studies, that favored investment in basic education.

However, the composition of external support changed during the decade. While earlier assistance was more likely to address the staff training and institutional development needs of universities, it later became more narrowly defined. As the international development community became concerned with basic human needs and the "poorest of the poor", donor projects with universities focused increasingly on particular problems and became more results-oriented (*Elsemon and Kourouma 1991*).

While universities are grateful for donor support, they do not receive it uncritically. Many universities are distressed by the decline in donor assistance, and frustrated by the sense that they have to continually prove themselves and convince others of their important role in nation-

al development (*Coombe 1991, p. 8*). The prevalence of narrowly defined project-specific funding has compounded difficulties by limiting the availability of more flexible funds for institutional needs such as staff training, library acquisitions, equipment renewal, and laboratory outfitting. Over half of foreign aid to African education was for technical assistance, 17 percent was for fellowships, and only 11 percent was earmarked for educational inputs such as books, equipment and teaching materials (*Orivel and Sergent 1988*).

Donor projects have frequently assumed an institutional capacity within universities that was not always there. Research on women was sometimes encouraged without determining whether existing library resources would support quality work on this issue. Training in environmental planning and management might be initiated without an assessment of the institution's capacity for providing education in the basic sciences. Some university departments (such as economics) were competitively courted by donors without regard for their overall capacity to meet their project obligations. Donors have awarded fellowships to university staff without reference to university staff development priorities, sometimes creating staff shortages. In other cases, uncoordinated donor initiatives has increased the complexity of managing university programs by introducing incompatible features of differing national systems (*Eisemon and Kourouma 1991, p. 22-23*). At the same time, financially starved universities were often willing to accept whatever assistance was proffered without assessing its relevance to institutional development objectives. The cumulative result of this has been the neglect of universities' institutional needs (libraries, staff development, maintenance, planning and management).

Donors and universities share responsibility for creating this state of affairs. They must both assume the obligation to correct these institutional imbalances. In cases where university dependence on donor support is particularly high (Mozambique, Uganda, Tanzania, Senegal), donors have a special duty to ensure that their activities are consistent with overall institutional development goals.

This will be particularly important in light of an expected increase in donor attention to universities. A recent review of international development assistance for higher education suggests the following trends (*Coombe 1989, p. 9*):

- A broad human resource development approach at the country level.
- Long-term program support rather than incremental project support.
- Building institutional self-reliance and sustainability.
- Strengthening local self-directing capacities.
- Improving appropriateness of projects and project-related training for the world of work.
- Promoting quality of education and training while trying to meet expanding needs.

The renewed importance being accorded to human resource development stems not so much from an appreciation of education's contribution to development as from a more immediate *"realization that part of what is seen as the crisis in public sector management in many developing countries can be dealt with through human resource development strategies"* (*King 1986*).

This perspective has prompted a series of fresh donor initiatives in the 1990s. The World Bank,

UNDP and the African Development Bank have joined in launching the Africa Capacity Building Initiative. A consortium of donors, led by the Government of the Netherlands, the Government of Botswana and the World Bank, have established the Global Coalition for Africa which has defined human resource development as a principal priority. The World Bank itself now lists some 20 projects in various stages of development that include significant higher education components. Likewise, UNESCO has highlighted higher education development under its "Priority: Africa" and UNITWIN initiatives, and the Commonwealth Secretariat has launched a Commonwealth Higher Education Support Scheme (CHESS). In 1991, the Southern African Development Coordination Conference incorporated human resource development, particularly at the tertiary level, into its strategy for regional economic development (*SADCC 1991*).

Among bi-lateral programs, similar shifts are apparent. Assistance to higher education by the Government of the Netherlands has been growing in recent years and will increasingly emphasize capacity building and institutional development in the future. The Canadian International Development Agency is doubling its fellowships program and giving greater attention to universities. In recognition of the reinforcing role that universities can play with regard to basic education, the Swedish International Development Authority has complemented its longstanding commitment to basic education by extending selective institutional support to a few African universities. The French Ministry of Development Cooperation is re-orienting its established support for African universities to emphasize improved quality and more effective management. The Government of Italy reports that some expansion of assistance to African higher education is likely. The Government of Germany will continue support at more or less present levels, but focus more on post-graduate training, research, staff development and organizational management in the future. USAID, having reduced its funding for higher education in the 1980s, is now launching a linkage program that will allow U.S. universities to work with sister institutions among the developing nations. Major American foundations such as Ford, Rockefeller, and Carnegie are seeking ways to make meaningful contributions to African higher education.

The growth of international donor interest in African universities has been accompanied by efforts to improve the effectiveness of this collaborative relationship. Beginning in late 1990, a Working Group on Higher Education constituted under the Task Force of Donors to African Education has sought to enhance its understanding of university needs and to improve the effectiveness of donor assistance in this area. Composed of a dozen donor agencies from Europe and North America, and regularly including the participation of university Vice-Chancellors and Rectors, representative associations such as the Association of African Universities, and other African higher education specialists, the Group has wrestled with the question of how to ensure that donor support is consistent with the universities' principal institutional objectives. While the Working Group has functioned well as a forum for sharing information, enhancing donor understanding of African perspectives on these problems, and building a degree of consensus concerning priorities, it has not yet been able to orchestrate multi-donor collaboration in testing some of the new ideas that have come out of these discussions. This may yet happen.

The following recommendations, produced by the Working Group, indicate areas where joint donor/university initiative should be possible.

***Recommendations***

The Working Group recognizes that African universities contribute significantly to education sector development and national capacity building on the continent. Universities set the standard for primary and secondary education. They train teachers, administrators, researchers and policy-makers in the education field. Quality at the top will eventually generate quality gains throughout the entire system. Universities are also the principal source of the skilled leadership and technical ability needed to guide national development. These human resources, together with the research and policy analyses they produce, constitute fundamental inputs for national capacity building. For these reasons, African universities deserve more systematic treatment by donors and governments than they have received to date.

Mission Statements. Donors are urged to support institutional strategic planning exercises in response to university initiatives. These exercises should seek to develop a mission statement for the university which responds to present and future national circumstances, and to support this with appropriate cost projections. Mission statements are ideally short and readable documents that clearly spell out operational objectives for the university. Their purpose is to demonstrate universities' ability to plan and manage their future, and to provide a basis for government and donor investment decisions. Mission statements are produced through institutional strategic planning exercises initiated by universities. They involve extensive internal consultation and consensus-building with their staff through management audits and self-studies. These statements should integrate attention to educational quality, output mix, finances, curriculum, staff development, research, access, governance and management. In recent months, strategic planning exercises of this type have been undertaken in Botswana, Cameroon, Ghana, Mozambique and Tanzania.

Donor Coordination Mechanisms. Where universities have developed updated mission statements, they can use these plans as the basis for coordinating the development assistance that they receive. This can be done by convening a university's principal donors to discuss the mission statement, obtain general agreement on a division of responsibilities among all parties, and plan periodic monitoring of implementation progress and associated problems. These meetings may evolve into a more formal mechanism for coordination and consultation on higher education assistance at the national level. This approach requires a willingness by university and donor representatives to engage in open discussion of their priorities, and to make longer term capacity-building commitments to activities in which a coincidence of interests can be found. The first steps towards the creation of such a consultative mechanism have been taken in Mozambique.

Flexible Funding. During the 1980s the overall situation at many universities in Africa deteriorated to such an extent that immediate and collective action by donors is now recommended. It is essential that the basic functioning of African universities be assured if the continent is to have the human resource competence that it will need to manage its development effectively in the years ahead. Donors should be prepared to assist higher education institutions and systems as a whole, in preference to the more narrowly-defined projects that have predominated in recent years.

If African universities are to maintain minimum standards in providing higher education, they must be able to meet operational costs which frequently require access to foreign exchange. These include library acquisitions, equipment

maintenance and replacement, textbooks and other teaching aids, staff development, research support, and some consumable materials. Just 11 percent of donor support of higher education in the early 1980s was allocated to these types of operating cost, while fully 44 percent of this assistance was provided in the form of foreign technical assistance (*World Bank 1988, p. 104*). Neglect of these inputs over time will lead to a progressive deterioration of institutional capacity for teaching and research.

During this period of African history in which economies are stagnant and foreign exchange is scarce, donors can ensure that minimum financial requirements are met by providing more flexible funding for preservation of institutional capacities. In more acute cases, this should include support for recurrent costs. This approach is necessary because many of these needs are excluded from consideration under the more narrowly-defined results-oriented funding that has characterized most donor activity in recent years.

Flexible funding requires that donors allow universities greater management initiative in the use of such funds, including those for selected recurrent expenditures. But it necessitates agreement on appropriate mechanisms of accountability (such as institutional work plans, annual reports, yearly audits) to address donors' stewardship obligations in the disbursement of public funds. SIDA is pioneering this flexible funding approach with universities in Mozambique, Tanzania and Zambia. The World Bank may join the SIDA initiative in one or more of these cases.

Institutional Linkages. One of the most promising uses of targeted flexible funding may be for institutional linkages. These arrangements are a common feature of the African university landscape. For example, the University of Dar es Salaam has some 50 such agreements, the University of Zimbabwe has roughly 40, and many other African universities maintain multiple links. Often, however, these programs result from initiatives, backed by funding, by "northern" universities. African universities, lacking bargaining power backed by the capacity to bring their own resources to the negotiating table, are frequently the passive partner. Flexible funding, which supports the "demand side" of African interest in university linkages, may allow these agreements to be placed on a more even footing.

An assessment of institutional linkage experiences by African universities and their donors suggests the conditions under which these arrangements are most effective: (a) when they are part of a longer-term institutional development effort; (b) when they are between similar faculties or departments; (c) when they seek to up-grade existing programs rather than launch new ones; (d) when both institutional associates have a capacity to manage the relationship effectively; and (e) when such programs respond to local priorities and reflect balanced attention to the needs of each institutional partner.

Flexible donor support for university linkages might work in the following manner. An African university department would conduct its own needs assessment and identify the types of inputs necessary to enhance its teaching and research activities. It would then draft terms of reference for an institutional linkage program. The study and terms of reference, together with criteria for selection and an indicative short-list of potential linkage candidates, would be the basis for requesting donor funding. When funding is assured, the African university would invite candidates from its short list to submit "bids" for collaborative programs, which would include the financial and in-kind resources that it would be prepared to contribute to the undertaking. From

this, the university would make its choice and proceed to negotiate a time-bound agreement with specific output targets. Flexible funding might be used for contact travel, staff development fellowships, joint research, library acquisitions, equipment, communications, and so on. This approach is currently being tested by Eduardo Mondlane University with World Bank support. The Harare-based African Capacity Building Foundation is exploring the possibility of similar approaches elsewhere in Africa.

Donors whose policies may limit consideration of more flexible funding because they are prevented from extending support for recurrent expenditures could consider all university institutional development assistance, including recurrent items, as a long-term investment expenditure designed to boost national productivity. The World Bank successfully employed such an argument in justifying a wide range of institutional support activities intended to bolster national agricultural research capacity in Africa.

Management. This has been identified as a key area which requires improvement. Donors are encouraged to give greater attention to strengthening institutional management capacities in their support to African higher education. Integrated approaches to management audits, management training, management information systems, university development units, and strategic planning exercises are suggested as a means of accomplishing this objective. Some activities, such as management training, research and studies, may be more efficiently organized through regional approaches.

Staff Retention. This is currently an acute problem in many African universities. Donors are asked to work with government and university leadership to identify short-term responses to this problem. The solution may require greater flexibility in personnel management policies and will probably necessitate a package of responses, including salary adjustments, performance incentives, professional development opportunities, improved pension plans, and research support.

Women. Women are under-represented, sometimes significantly so, among the students, teaching staff and administration of African universities. Women's participation in these groups has declined over the past decade in a number of African countries. University and donor leadership is encouraged to analyze the barriers to women's participation in all aspects of higher education, and to support efforts which seek to overcome the constraints.

Educational Inputs. The deteriorating quality of higher education is a particular concern. In the course of their on-going collaboration with universities, donors are strongly urged to make specific provision for quality-enhancing inputs such as textbooks, journals and books for libraries, equipment maintenance and replacement, and the updating of professional skills among teaching faculty.

Research. This is a key aspect of the university's mission in Africa. It generates new knowledge, informs the national development process, enriches classroom teaching by grounding it in local realities, and imparts analytical training to participating students. Difficult conditions during the 1980s have sharply curtailed research activity and output. Donors to African higher education are encouraged to support university research capacity-building. This can be done, for example, through assistance for locally-managed research funds, methodology training, library acquisitions, equipment maintenance, and professional meetings attendance. Among donors, SAREC has acquired significant experience in strengthening university research capacity.

Post-Graduate Programs. Such programs at the MA/MS level integrate university research and teaching in the production of specialized professional personnel. The quality and relevance of these programs will determine the effectiveness of a country's future managerial and technical leadership. Donors are encouraged to extend long-term capacity building assistance to post-graduate programs in areas consistent with their priorities, and to strengthen existing programs before initiating new ones.

In some cases, the degree of specialized skills and equipment required to mount adequate post-graduate training programs entails expenditures and institutional commitments which may not be justified by the limited local labor market demand. In such cases, universities and donors are urged to explore forms of regional cooperation that might allow acceptable programs to be offered at reasonable cost. For example, courses requiring sizeable investments in expensive equipment might be offered solely at designated locations on the mutual agreement of universities within a sub-region. Specialized courses requiring less substantial inputs might be offered through collaborative arrangements that draw upon the comparative advantages of staff skills at different institutions and which generate economies of scale through the use of common textbooks and teaching materials in an agreed-upon core curriculum.

Output Mix. In a number of countries, universities are seeking to shift their output mix of graduates in favor of engineering, sciences and business-related disciplines. However, increasing enrolment in these is often constrained by inadequate science preparation at the secondary level and the higher costs of tertiary training stemming from the need for modern equipment and laboratory materials—much of which requires scarce foreign exchange. Donors are asked to consider increasing their levels of support for secondary and university-based training programs.

Higher Education Research. Greater understanding of African higher education issues is needed to formulate appropriate policy responses. Local capacities to generate and analyze information on higher education are often limited. Where this is so, donors are encouraged to consider specific initiatives in support of research on key issues related to higher education.

Regional Associations. Regional and sub-regional representative organizations serving the university community constitute an important mechanism for the discussion and dissemination of current thinking, and in representing this community's interests within Africa and abroad. Examples of such organizations include the Association of African Universities, the Conseil Africain et Malgache pour l'Enseignement Supérieur (CAMES), and the Eastern and Southern African Universities Association. Because of their regional nature, these organizations often fall outside the parameters of nationally oriented donor programs. Yet they can play an important role in sharing experience and building consensus concerning the need for policy reforms. For this reason, they should be viewed as deserving claimants for donor assistance.

### *Building a Local Donor Community*

In the long run, African universities must strive to reduce their dependence on international development assistance and to cultivate local donors within their own countries. Wandira (*1977, p. 29*) provides a rationale for this effort: *"The dilemma is that a poor country, short of funds, may be unwilling or unable to finance the innovative university it needs. To break this*

*vicious circle by resort to external assistance may well introduce the dangers of irrelevant ties and strings."*

Local donors include alumni, businesses, professional associations and policymakers with ties to the university. They can often play a positive dual role of customer and client. Their interests tend to converge with those of the university, and the resulting relationships tend to be interdependent, constructive, and relatively stable over time. International assistance is frequently characterized by a temporary convergence of short-term interests. The resulting collaboration may be less stable and be open to influence by shifting development fashions or policy changes within the donor country. As noted earlier, "friend-raising" efforts, together with conscious outreach to the private sector, constitute a necessary first step in the creation of a supportive local donor community that can become a sustainable partner in university renewal.

# 12

## *Initiating Reform*

Universities are among the most change-resistant institutions in the world. Higher education institutions (particularly research universities) have changed little over the past 500 years. *"About eighty-five institutions in the Western world established by 1520 still exist in recognizable forms, with similar functions and with unbroken histories, including the Catholic church, the Parliaments of the Isle of Man, of Iceland and of Great Britain, several Swiss cantons, and seventy universities. Kings that rule, feudal lords with vassals, and guilds with monopolies are all gone. These seventy universities, however, are still in the same locations with some of the same buildings, with professors and students doing much the same things, and with governance carried on in much the same ways."* (*Kerr 1982, p. 152*). This historical experience suggests that any effort to re-structure or reform higher education systems, and particularly institutions of higher learning, should be framed as a long-term undertaking which sets its goals modestly and strategically.

Although the institutional life of universities in Sub-Saharan Africa is far briefer, many of these same conclusions can be applied. In 1960, before the main wave of African independence swept the continent, just six universities were in being. Today there are nearly one hundred. Following independence, considerable effort was invested in higher education reform, and much was accomplished. Yet in spite of these achievements, the organization of these universities, their management and governance remains largely as it was then.

The rapid numerical growth of African universities has prompted little evolution in institutional forms. Some universities may embrace a specialized disciplinary focus such as agriculture, education or science and technology, but in structure and process they remain remarkably similar. Little institutional differentiation has occurred within higher education systems, and legacies from the pre-independence era still shape the form and substance of African universities in important ways. These include the high-cost model of publicly-funded residential instruction, strong curricular emphasis on the humanities and social sciences, and an elitist orientation. As a result, these systems have been hard pressed to meet the rapidly rising social demand for access to university education in an era of significant economic, political and technological change.

The challenge is daunting, but African governments and their universities have begun to respond. What lessons can be learned from this experience? The following discussion draws upon current examples of promising practice to suggest options for African governments, universities and donors to consider.

### *Building Consensus*

Efforts at higher education reform—whether they focus on organization, finance, curriculum or governance—stand little chance of sustainable success unless they are grounded in broad public consensus. In Africa, a wide cross-section of society has a personal stake in the university and feels competent to advance opinion on university-related matters. Most civil service employees, and many political, business and civic leaders, are graduates of the national university. Many have sons and daughters currently enroled as students. It is relatively easy for one or another interest group to block reform efforts, and equally difficult to reach agreement on what must be done. Consensus-building should constitute the first order of business on any agenda for higher education reform. Commenting on the educational reform experience in Costa Rica, the Minister of Education, Marvin Herrera, (*1991, p. 32*) states, ... *"it becomes imperative to involve all organizations that have to do with education, in order to achieve the objectives in less time, at the lowest possible cost, and with little wear and tear."*

Assessing how change occurs in higher education, Brunner (*1991*) concludes that the impetus most often derives from one or more of the following three sources: the academic profession, market or environmental demands, and public policy initiative. The first is linked to the capacity of university professors, researchers and administrators to induce limited or fragmentary internal changes on the basis of knowledge advances or positional interests. The second stems from often unanticipated pressures produced by particular consumer or user groups external to the higher education system. The third is led by strategic action from the higher levels of government on the basis of authority decision. In practice, these three groups compete amongst themselves for control of the dynamics of change and for conservation of the system, although one of them is usually predominant. Within Latin America, for example, Brunner notes a growing trend towards market influence in the face of declining governmental capacities to control and finance higher education development. Nevertheless, consensus-building efforts are well advised to give explicit attention to each of these spheres of influence.

In an analysis of the recent Chilean experience in forging a national educational policy agreement, including a significant higher education component, the Minister of Education, Ricardo Lagos, lists the various interest groups that should be involved in educational reform efforts. These include students and their parents, educators and their professional associations, government agencies with relevant responsibilities, university management, private and public entrepreneurs, organized labor, political parties and parliament, and church leaders. Lagos notes that the legislative branch can be a valuable participant in consensus-building because its members are in close contact with their constituencies and tend to be better in touch with their interests, aspirations and needs than are government executive authorities. He cautions, however, that legislative bodies are not always able to appreciate that education is a complex field in which there are rarely any quick or easy solutions. Most often, the need is for a long-term commitment in pursuit of certain policy goals rather than for specific short-term actions which play to "educational populism" (*Lagos 1991, p. 23-24*).

Consensus-building is important because it allows for a testing of the political feasibility of proposed changes before actual decisions are made. The challenge is not just to identify potential solutions, but to determine those that are politically viable under specific circumstances, and to discover the pace and conditions

under which they can best be implemented. Immediately feasible proposals need to be differentiated from those that are longer-term and more controversial. Because of location specific sensitivities, the process of assessing political feasibility of policy changes and building consensus for higher education reform is best undertaken at the national level. The result should be a more stable and effective reform process. In the case of Chile, a Presidential Commission on Higher Education Reform *"...undertook written consultation with a selected number of institutional authorities, academics, researchers and members of the business world; it held over 60 working meetings in various higher education establishments throughout the country, in which over 1,500 institutional authorities and academics participated; it met on two occasions with student federation presidents and listened to representatives from 15 professional associations"* (*Brunner 1991, p. 63*).

The failure to invest in public education and consensus-building before instituting policy changes can generate high costs. In Mali, students and families protesting a February 1991 increase in university fees pulled the Minister of Higher Education from his car and killed him. In Nigeria, a poorly understood World Bank loan to enhance educational quality and improve system efficiency in the universities has prompted multiple student demonstrations (*Bako 1990*). In Kenya, the precipitous announcement of fee increases sparked student protest which closed the country's six universities for much of 1991.

Several alternative approaches to consensus-building have emerged in Africa. They are: (a) the self-study; (b) the inter-institutional working group; (c) the intermediary coordinating agency; and (d) the external visiting committee. Some are initiated by universities; others are undertaken by government. Each of these will be discussed. These methods are not mutually exclusive and can be combined to good advantage.

The Self-Study. This is an institutional review initiated by senior university management. Through internal analysis and consultation, it reviews the existing mission statement, organizational structure, key policies, and/or installed capacities for consistency as well as responsiveness to the external environment. This appraisal is often led by a steering group drawn from academic and administrative staff. Preliminary results are shared with representatives of administration, faculty, students and non-academic staff in a workshop setting. Subsequently, small project teams may be used to develop detailed strategies for change in identified problem areas. The resulting institutional development strategy is then shared with government, donor and private sector representatives, and with campus leaders. The self-study approach has been effectively employed by Eduardo Mondlane University (*1991*) in Mozambique and by the University of Dar es Salaam (*1991*), Tanzania. At present, the universities of Zambia, Asmara (Eritrea), and Natal (South Africa) are in the early stages of self-study and strategy planning. The pay-off from this exercise can be high, as the lack of clearly defined institutional priorities is often a major obstacle to university development (*Mosha 1986*).

The strength of this approach is that it is broadly consultative within the institution to be directly affected by the resulting changes. This creates a process which builds understanding of the need for change and agreement on institutional strategies within the larger university community. It also allows higher education reform to evolve from the "bottom-up," facilitating the emergence of an institutionally diverse higher education system. A potential weakness is that the process may be divorced from influential political deci-

*Box 7. A Self-Study Experience at Eduardo Mondlane University*

In 1990 leadership at Eduardo Mondlane University in Mozambique decided to initiate an internal study of challenges faced by the institution in the effort to design a strategy for its stabilization and development. The study sought to update and explain the University's mission to government at a time when economic policy and political changes were creating a new operating environment in Mozambique, and responded to a sense that considerable donor assistance was being given to the University without an institutional plan to guide its application.

Over about eighteen months, a process of internal appraisal took place. It involved: (a) brainstorming roundtable discussions; (b) the establishment of working groups to address key issues; (c) internal review of a draft report, including with students; (d) consideration and incorporation of 27 written reactions by constituent groups within the university; (e) a consultative workshop for all interested staff; (f) internal acceptance of the plan; (g) careful prior discussion and agreement with government on the overall financial implications of the plan, and on the concept of greater autonomy that it proposed; and (h) a two-day consultative meeting with government, donors, and private sector representatives at which the plan was presented and discussed.

This has generated numerous benefits for the university. It has created a more open and supportive working environment based on internal and external consensus. The plan itself has become an extensively used resource document for fund-raising purposes. The plan's proposal for more flexible donor funding has produced some positive responses, and the University is now strengthening its accountability mechanisms (*Commonwealth Secretariat 1992*). Finally, it laid the foundation for a World Bank credit which will provide needed investment in institutional rehabilitation and development.

sion-makers and run the risk of proposing a course of action which is seen as politically untenable.

The Inter-Institutional Steering Committee. This is a sector review undertaken by government. At the initiative of a senior government official, often the president himself, a formal steering committee is established with authority to review higher education policy as well as its financial and organizational implications. Representation often includes the Office of the President; the Ministries of Education, Finance, Planning, and Labor; and university leaders. Others (such as national teachers association, private sector) may be incorporated as needed. The committee may constitute subordinate working groups with responsibility for studying specific policy issues and offering recommendations. The Committee meets periodically to review progress and to draft its report. Its final report is formally presented to government for executive decision. This approach is currently being used in Cameroon (Groupe de Pilotage) , in Ghana (National Committee on Tertiary Education Reforms), and in Senegal (Concertation Nationale sur l'Enseignement Supérieur). A non-governmental variation of this approach is currently being pursued in South Africa by the National Education Policy Investigation (NEPI). Through a series of semi-

formal working groups organized around critical policy issues, NEPI has produced a 1992 report that offers a policy agenda for the education sector in the post-apartheid era.

Advantages of the Steering Committee approach include broad political consultation within government and assurance of political support at the highest levels of decision-making. A principal risk is that other key actors such as non-academic staff, students and their families may be brought into the process very late or not at all. Government may later have to "sell" its policy changes to higher education consumers, with the possibility of heated reactions and consequent political negotiation.

The Intermediary Coordinating Agency. This is a formally-constituted umbrella government organization with responsibility for overseeing the higher education sector. It normally mediates between a multi-university system and government, supervises the budget allocation process, and monitors academic standards. Examples include the Nigerian National Universities Commission, the Kenyan Commission on Higher Education, and the Zimbabwean National Council for Higher Education. In Nigeria and Kenya, these agencies have played a key role in the process of higher education reform.

Intermediary agencies are relatively new phenomena in Africa, often arising as a management response when multi-university systems emerge. Experience suggests that their strengths include the ability to identify common ground for policy initiative within the competing interests of universities and government, and to broker the negotiation process of conflict and compromise among different interest groups into effective agreement on key policy issues. Potential weaknesses are a tendency to work within the machinery of government to the exclusion of major interest groups such as faculty and students, and to lose legitimacy where the agency is unable to serve both universities and government in a situation of conflicting interests.

The External Visiting Committee. In many countries, particularly those of the British Commonwealth, a "blue ribbon" committee of outside experts is periodically invited to review all aspects of a higher education institution or system. Such reviews normally occur every three to five years and are linked to forward planning and budgeting processes. Countries that have employed external visiting committees in recent years include Botswana, Namibia and Zimbabwe.

External visiting committees offer distinct advantages and drawbacks. They can contribute fresh insight, comparative experience, and the legitimacy of recognized, disinterested judgment. In local settings where a division of opinion surrounds key policy issues, these committees have the added advantage of tendering dispassionate analysis while keeping institutional or personal politics at arm's length, and of proffering "trial balloons" on sensitive issues without forcing key actors to take positions on them. The shortcomings of this approach include the committee's inevitably limited understanding of the local situation, the need for active institutional leadership to follow-up on the committee's recommendations, and the tendency to compress what often should be an extended process of consultation and consensus-building into the brief period of the committee's visit.

*Creating a Supportive Environment*

In virtually all cases, African higher education reform efforts have suffered from neglect of the need for public education on key and often controversial issues. Newspaper articles, broadcast interviews and consultative meetings are options for informing public opinion concerning

the source and consequences of higher education problems, and for laying the groundwork for eventual consensus regarding the response. The issue of deteriorating educational quality can serve as a unifying theme for the constructive involvement of students (and their families), academic staff and policymakers in reform initiatives.

Several examples of government efforts to inform a general public concerning higher education problems and possible responses illustrate what can be accomplished. In Ghana, the Higher Education Division of the Ministry of Education initiated a newsletter in 1991 to make the process of higher education reform more transparent and participatory. Entitled Hi Ed News, it contains summaries of governmental policies and plans, reports of World Bank missions, and opinion by staff and students. In Senegal, a series of studies on higher education issues is being used to nourish a national debate on the future structure and content of the nation's higher education system, including discussion through radio and television broadcasts. In Hungary, broad-based public interest in university reform was fostered by a booklet produced by the Ministry of Education (*Coordination Office for Higher Education 1991*). The booklet laid out the main issues and identified associated policy options. It was widely distributed one year in advance of a legislative vote on a higher education reform package, and contributed to an informed process of consensus-building debate before the actual policy decision. In Brazil, officials from the Ministry of Finance wrote a series of newspaper articles that questioned prevailing patterns of inequitable and inefficient higher education finance, counterbalanced the lobbying efforts of strong staff and student associations, and put the issue of reform on the public agenda.

### *What is Government's Role?*

Government is the central actor in African higher education. It finances the lion's share of university budgets, sets access policies, appoints key officials, and ensures that standards are maintained through accreditation or other mechanisms. Consequently, the way in which government relates to the higher education sector in carrying out these responsibilities will very much condition the possibilities and pace for higher education reform. Two contrasting approaches to governmental regulation of public sector responsibilities such as higher education are identified and analyzed by van Vught (1992).

The first approach is that of state control. In its purest version, it assumes that knowledge of the object of regulation is firm, control over the object of regulation is complete, and that the self-image of the regulating entity is holistic. It applies a highly rational planning process to decisionmaking by comprehensively evaluating all conceivable consequences of all conceivable alternatives. It implies a centralized decision-making process and substantial control over policy choices and subsequent implementation. It also requires that all parties concerned place considerable confidence in the capabilities of governmental actors and agencies to fully understand the issues and make the right decisions. A series of rules and control mechanisms is used to steer institutional behavior towards the desired policy objective (*van Vught 1992, p. 11-13*).

In settings where the skilled human resource base is limited and institutional capacities are still in formative stages, the state control approach often exerts considerable appeal from a management standpoint. This may be particularly true in instances where a high degree of agreement on national goals is assumed to exist

among all interested parties. In the early days of African independence, for example, it was generally believed that universities and their governments shared common goals in promoting national development and nation-building. Many African governments adopted variations of the state control approach in their management of higher education sectors.

The second approach is the strategy of state supervision. In many ways, it stands in opposition to the model of state control. It recognizes that knowledge is shifting and highly uncertain, and believes that control is difficult if not impossible. Instead of seeing itself as the regulating actor, governments employing the state supervision approach see important advantages in a division and decentralization of responsibilities. This model assumes that the disaggregation of complex decisionmaking processes offers the benefits of a high level of robustness, a substantial degree of flexibility, considerable capacity for innovation, and low information, transaction and administrative costs. Decisionmakers focus on monitoring feedback from a small set of critical policy variables, which they seek to keep within tolerable ranges, and evaluate the criteria by which these critical variables and the tolerable ranges are chosen. System emphasis is on the self-regulatory capacities of decentralized decisionmaking units (*van Vught 1992, p. 13*).

Van Vught argues in favor of the state supervision approach. It appears better suited to the context of higher education, acknowledging the fundamental characteristics of universities and seeking to use some of these characteristics to stimulate innovation within the system. By judiciously managing relations of autonomy and accountability between universities and the state, it creates incentives for internal and external efficiency, as well as quality performance. In contrast, the state control model employs assumptions that are at odds with some of the basic characteristics of higher education institutions such as the high level of professional autonomy, the considerable degree of organizational independence, and the sizeable decentralization of decisionmaking power (*van Vught 1992, p. 41*). Even in settings where a shortage of skilled professionals and associated limits on institutional capacity favor a general model of centralized management and state control, higher education institutions contain concentrations of skilled professional talent which are harnessed within established institutional structures. As a result, they are likely to possess a greater capacity for self-regulation and autonomous governance than most other public institutions. For these reasons, the role of government in managing higher education change should be essentially a supervisory one.

### *What is the University's Role?*

Efforts to stabilize and revitalize Africa's universities will be advanced by those academic institutions able to offer a clear statement as to their institutional objectives and role in society. To the extent that universities can offer their supporters (government and donors) and consumers (students and their families, the private sector) a coherent vision of their institutional role and output, the consensus-building process will be made easier. But universities themselves must take the first steps in their quest for greater stability and vitality.

Mission Statements. This undertaking must be premised on a strong commitment by university leadership to a rigorous institutional review. It begins with a consultative process which seeks to address three questions: What kind of university does the country have? What kind of university does the country need? What kind of university can the country afford? Discussions should seek to develop a mission statement for the university which responds to present and

future national circumstances, and to support this with realistic cost projections. The resulting statements should integrate attention to educational quality, finances, curriculum, distribution of students among principal disciplines, staff development, research, access, governance and management. The Association of African Universities has called upon African universities to reappraise their mission, goals and objectives in response to shifting circumstances (*AAU 1991, p. xvi*).

Where universities are able to produce updated institutional assessments, these can be used as a basis for coordinating funding from government and donors. Ideally, this coordination would be initiated by university leadership, and be undertaken through some collective facilitating mechanism composed of the principal university funders. This approach implies greater flexibility in the structuring of governmental and donor support for universities, including an increased delegation of authority to university management in determining the application of funds within the framework of the institutional plan. The approach also requires a willingness by university, government and donors representatives alike to engage in open discussion of their priorities, and to make longer term capacity-building commitments to activities in which a coincidence of interests can be found.

Higher Education Research. Greater understanding of African higher education issues is needed to formulate appropriate institutional plans and policy guidance. Without an adequate information base and the capacity to document university performance regularly, the state supervision approach will have difficulty in operationally defining and tracking critical policy variables for the sector. While these capacities can be, and sometimes are, established within government ministries or intermediary bodies such as a national council on higher education, there are advantages to housing them within universities. These include greater ease of access to information by all interested parties, the opportunity to link this research with university training programs, and the enrichment that comes from the opportunity for pluralistic discussion of difficult policy issues.

At present, relatively little analysis of higher education issues is carried out by Africans. Consequently, much of the present policy discussion is this field is framed and promoted by donor agencies, particularly by the World Bank. Local capacities to generate and analyze information on higher education are limited in many parts of Africa. For example, an educational research symposium for African graduate students in the United States included five topics on higher education among 24 presentations (*Ohio University 1990*). Of these, two dealt with South Africa. Two out of 178 sessions scheduled for the annual meetings of the (American) African Studies Association were dedicated to education, and neither focused specifically on higher education.

Policy discussion and institutional planning would certainly be enriched if African higher education specialists were able to stimulate a true dialogue by contributing their own analyses. This is precisely the aim of the Association of African Universities, which has undertaken several comparative studies of universities since 1989. Topics include the cost-effectiveness of universities, graduate education and research, and the potential for greater university collaboration with the private sector. Additional research on higher education management will be launched by the AAU in 1992. Although these studies show some variation in quality which reflects the current state of this interest in the region, they nevertheless represent the first

significant effort by an African institution to assess higher education performance in more than a decade.

### *Towards an Agenda for Higher Education Reform*

Anticipating the thrust of the World Bank's policy paper on higher education scheduled for release in 1993 (*Salmi 1992*), the following issues are suggested as input to an agenda for African higher education reform. The specific forms that these actions will take at the national level, however, must be the responsibility of each government and of the institutions concerned.

Policy Framework. A set of key policy parameters is needed to guide the development of higher education. These should address critical issues such as growth, access, financing, graduate output, governance, and accreditation.

System Differentiation. As Africa's higher education systems move from elite to mass orientations, they must decide how best to incorporate growing student enrolment in ways that meet social demand and respond to labor market needs while meeting the test of efficient resource use. The most effective approach may be through an institutional diversification strategy based on the development of a variety of lower cost alternative institutions differentiated in missions, functions and modes of delivery while also consolidating prestige institutions specializing in graduate studies and research.

Balancing Enrolments with Financing. To preserve quality as the demand for higher education expands faster than governments' ability to provide it, a financial pact between universities and their governments is proposed. This would commit government to providing a certain portion of the unit cost of educating each student, so linking enrolments to budget availabilities. In return, higher education institutions would commit themselves to covering the remaining portion of these costs.

Financial Diversification. Strategies of financial diversification should be developed and pursued as a means of ensuring greater institutional stability and autonomy, and of generating the additional resources needed to launch reform initiatives.

University Autonomy. Greater autonomy, particularly in the financial administration of universities, is needed to provide the incentives necessary to encourage quality performance, management efficiency and the capacity for innovation in the face of change.

Improved Governance. Universities are currently challenged to become more responsive to the needs of government and society to justify the considerable investments made in them. Improved university governance structures, through greater participation by interested parties from within and outside the university, offer one means of achieving this.

Efficient Management. Better management is the best short-term strategy for freeing resources to meet the needs of higher education institutions. It provides assurance to government and donors that their limited resources are being put to good use. And better management at and by the university communicates positive professional values to students.

Strategic University Plans. Universities must seize the initiative to achieve their own stabilization and revitalization. They can do this by undertaking a self-study which re-assesses their institutional mission, performance and organization. The study can be used to build the internal and external consensus needed to initiate and carry through the proposed reforms.

# *Bibliography*


Adams, Milton, Ibrahima Bah-Lalya, and Mwenene Mukweso. 1991. "Francophone West Africa." In Philip G. Altbach, ed., *International Higher Education: An Encyclopedia.* New York: Garland Publishing, Inc.

Africa Watch. 1990. *African Universities: Case Studies of Abuses of Academic Freedom.* Report prepared for the CODESRIA Symposium on Academic Freedom, November 1990, Kampala, Uganda.

Albrecht, Douglas, and Adrian Ziderman. 1991. *Deferred Cost Recovery for Higher Education: Student Loans in Developing Countries.* World Bank Discussion Paper No. 137. Washington, D.C.: World Bank.

Albrecht, Douglas, and Adrian Ziderman. 1992. *Funding Mechanisms for Higher Education: Financing for Stability, Efficiency and Responsiveness.* World Bank Discussion Paper No. 153. Washington, D.C.: World Bank.

Alele-Williams, Grace. 1988. "The Politics of Administering a Nigerian University." In *25 Years of Centralized University Education in Nigeria.* Lagos, Nigeria: National Universities Commission.

American Council on Education. 1990. "Financing Higher Education in the United States." *U.S. Higher Education: An International Visitor's Guide.* Washington, D.C.: American Council on Education.

Ashby, Eric. 1966. *Universities: British, Indian, African: A Study in the Ecology of Higher Education.* Cambridge, Mass.: Harvard University Press.

Assie-Lumumba, N'Dri Thérèse. 1992. *L'Enseignement Superieur en Afrique Francophone.* Consultancy Report, World Bank, Africa Technical Department, Education and Training Division, October 1992, Washington, D.C.

Association of African Universities. 1988. *Directory of African Universities.* Accra, Ghana: Association of African Universities.

Association of African Universities. 1991. *Study on Cost-Effectiveness and Efficiency in African Universities.* Accra, Ghana: Association of African Universities.

Bako, Sabo. 1990. "Education and Adjustment in Africa: The Conditionality and Resistance Against the World Bank Loan for Nigerian Universities." Paper presented at the CODESRIA Symposium on Academic Freedom, Research and the Social Responsibility of the Intellectual in Africa. November 1990, Kampala, Uganda.

Ball, Sir Christopher. 1990. *More Means Different: Widening Access to Higher Education.* London: Royal Society for the Encouragement of Arts, Manufactures and Commerce.

Baregu, M. 1991. "University Management Administration and the Imperatives of the Academy." *UDUSA Newsletter* 13 (July): 4-5.

Barnett, Tony and Piers Blaikie. 1992. "The Grandparents' Burden," *Times Higher Education Supplement.* July 3, 1992.

Becker, Charles M. 1990. "The Demo-Economic Impact of the AIDS Pandemic in Sub-Saharan Africa," *World Development* 18 (12):1599-1619.

Bellew, Rosemary, and Elizabeth M. King. 1991. *Promoting Girls' and Women's Education: Lessons from the Past.* World Bank Education and Employment Working Paper Series No. 715. Washington, D.C.: World Bank.

Blair, R. D. D. 1992. *Progress and Potential for Financial Diversification among Selected African Universities.* Consultancy report, World Bank, Africa Technical Department, Education and Training Division, January 1992, Washington, D.C.

Brunner, Jose Joaquin. 1990. *Educacion Superior en America Latina: Cambios y Desafios.* Santiago, Chile: Fondo de Cultura Economica.

Buchan, Amanda, Carmelle Denning and Tony Read. 1991. *African Book Sector Studies: Summary Report.* World Bank, Africa Technical Department, Education and Training Division, Washington, D.C.

Chege, Michael. 1989. Personal communication.

Chuta, E.J. 1992. "Student Loans in Nigeria." *Higher Education.* 23:443-449.

Colcough, Christopher. 1989. "The Higher Education Paradox in African Development Planning." *International Journal of Educational Development* 9 (4):271-281.

Commonwealth Secretariat. 1987. "The Cost of Distance Teaching in Higher Education." Report of the Commonwealth Expert Group on Distance Education. London: Commonwealth Secretariat.

Commonwealth Secretariat. 1992. *Eduardo Mondlane University: Review of Governance, Planning and Management.* London: Commonwealth Secretariat, Special Commonwealth Fund for Mozambique.

Coombe, Carol. 1989. *International Development Programmes in Higher Education.* London: Commonwealth Secretariat.

Coombe, Trevor. 1991. *A Consultation on Higher Education in Africa: A Report to the Ford Foundation and the Rockefeller Foundation.* New York: The Ford Foundation.

Coordination Office for Higher Education. 1991. *Concept for Higher Education Development in Hungary.* Budapest, Hungary: Ministry of Education and Culture.

Court, David. 1989. "University Education." Paper presented at the Policy Conference on the Implementation of Sessional Paper No. 6 of 1988 on Education and Training. Ministry of Education, March 19-22, 1989, Mombasa, Kenya.

Court, David. 1991. "The Development of University Education in Sub-Saharan Africa." In Philip G. Altbach, ed., *International Higher Education: An Encyclopedia.* New York: Garland Publishing, Inc.

Diambomba, Miala. 1991. "Les strategies de financement de l'enseignement superieur dans certains pays industrialises et africains." Discussion paper, Universite Laval, March 1991, Quebec, Canada.

Dorsey, Betty Jo, Rudo B. Gaidzanwa, and Anna C. Mupawaenda. 1989. *Factors Affecting Academic Careers for Women at the University of Zimbabwe.* Harare: Human Resources Research Centre, University of Zimbabwe.

Dubbey, J. M., and others. 1990. *University of Malawi: Tracer Study.* Zomba, Malawi: University of Malawi.

Duursma, C. M. 1989. "AI in Computer-Assisted Instruction." In Hans Oosthoek and Ton Vroeijenstijn (eds.) *Higher Education and New Technologies*, pp. 99-103. New York: Pergamon Press.

Eastern and Southern African Universities Research Programme. 1987. *University Capacity in Eastern and Southern African Countries.* London: James Currey.

Economic Commission for Africa. 1985. *Mbabane Programme of Action: The Response of the African Institutions of Higher Learning to Africa's Rapidly Deteriorating Economic and Social Conditions.* Third Conference of Vice-Chancellors, Presidents and Rectors of Institutions of Higher Learning. February 1985, Mbabane, Swaziland.

Economic Commission for Africa. 1989. "Higher Education and the Future of Africa in the 21st Century: The Role of the Institutions of Higher Learning in Responding to Africa's Development Needs and Priorities." *Discovery and Innovation* 1 (2): 25-32.

Eisemon, Thomas O. 1986. "Foreign Training and Foreign Assistance for University Development in Kenya: Too Much of a Good Thing?" *International Journal of Educational Development* 6:1-13.

Eisemon, Thomas O., and Moussa Kourouma. 1991. "Foreign Assistance for University Development in Sub-Saharan Africa and Asia." Paper presented at the World Bank Senior Policy Seminar on Improvement and Innovation in Higher Education, July 1-4, 1991, Kuala Lumpur.

Eisemon, Thomas O., and Charles H. Davis. 1991. "University Research and the Development of Scientific Capacity in Sub-Saharan Africa and Asia." In Philip G. Altbach, ed., *International Higher Education: An Encyclopedia.* New York: Garland Publishing, Inc.

Eisemon, Thomas O. 1992. *Private Initiatives and Traditions of State Control in Higher Education in Sub-Saharan Africa.* PHREE Background Paper No.92/48. Washington, D.C.: World Bank.

Eisemon, Thomas O., and Jamil Salmi. 1992. "African Universities and the State: Prospects for Reform in Senegal and Uganda." *Higher Education* (forthcoming).

Fielden, John. 1991. "Management Information Systems in Universities." Paper presented at a meeting of the DAE Working Group on Higher Education. June 1991, Dakar, Senegal.

Fine, Jeffrey C. 1990. "A Strategy for Graduate Training in Economics for Africans." Special Paper No. 9. Nairobi, Kenya: African Economic Research Consortium.

Fine, Jeffrey C. 1991. "Graduate Training in Economics and Reform of African Higher Education." Paper presented at a meeting of the DAE Working Group on Higher Education, June 1991, Dakar, Senegal.

Gaillard , Jacques and Roland Waast. "La recherche scientifique en Afrique." *Afrique contemporaine* 148:24-30.

Goedegebuure, Leo C. J., and V. Lynn Meek. 1991. "Restructuring Higher Education: A Comparative Analysis between Australia and the Netherlands." *Comparative Education* 27 (1):7-22.

Goma, Lomeck K. H. 1989. "The Crisis in Higher Education in Africa." *Discovery and Innovation* 1 (2): 19-25.

Guin, Jacques. 1990. "The Reawakening of Higher Education in France." *European Journal of Education* 25 (2):123-145.

Hayman, John. 1992. "Building Informatics Capacity in African Universities through a Network of Research and Development Centres." *Higher Education Policy*. 5(1): 54-56.

Her Majesty's Inspectorate. 1989. *Aspects of Higher Education in the United States of America.* London: Her Majesty's Inspectorate.

Herrera, Marvin. 1991. "Reflections on Constructing an Education Policy of Consensus." *Bulletin: The Major Project of Education* 25 (August):29-33. UNESCO Regional Office for Education in Latin America and the Caribbean.

Hewitt, Daniel P. 1991. "Military Expenditure: International Comparisons of Trends." IMF Working Paper. Washington, D.C.: International Monetary Fund.

Hinchliffe, Keith. 1987. *Higher Education in Sub-Saharan Africa.* London: Croom Helm.

Jenkins, Janet. 1980. *Corrspondence Institutions in the Commonwealth*. London: Education Division, Commonwealth Secretariat.

Kerr, Clark. 1982. *The Uses of the University*. (3rd Edition). Cambridge, Mass: Harvard University Press.

Kinfu, Johannes. 1991. "Resource Mobilization in Addis Ababa University: Income-Generating Activity at the Awassa College of Agriculture and Debre-Zeit College of Agriculture." Paper presented at the ECA/AAU Senior Policy Workshop on Resource Mobilization and Financing of African Universities. December 1991, Accra, Ghana.

King, Kenneth. 1986. "Institutional Links: A Commonwealth Challenge." Paper presented to the Pan-Commonwealth Experts Meeting on Institutional Links. February 1986, Bangalore, India.

King, Kenneth. 1991. "Capacity Building for Educational Research, Planning and Analysis." Paper prepared for a research study on "International Experience in Building Education Research Capacity" carried out by the World Bank and the British Council. Edinburgh University, Education Department, Edinburgh, United Kingdom.

Kinyanjui, Kabiru. 1991. "Progress Report on Capacity-Building in Education Research and Policy Analysis." Paper presented at the meeting of the DAE Working Group on Higher Education, June 25-26, 1991, Dakar, Senegal.

Klitgaard, Robert. 1991. "Access to Higher Education." Paper presented at the World Bank Worldwide Senior Policy Seminar on Improvement and Innovation of Higher Education in Developing Countries, July 1991, Kuala Lumpur, Malaysia.

Kola Cisse, Moussa. 1992. "Managing University-based Research and Research Institutes in Africa: Evaluating the Prospects for Improvement." *Higher Education Policy*. 5(2): 55-60.

Kotey, N. 1992. "Student Loans in Ghana." *Higher Education*. 23: 451-459.

Kwapong, Alexander A. 1992. "Recent Trends in Governance in African Universities: The Challenge of Scientific and Intellectual Leadership." Paper presented at a meeting of the DAE Working Group on Higher Education. February 1992, Nairobi, Kenya.

Lagos, Ricardo. 1991. "National Educational Agreements: An Unavoidable Need." *Bulletin: The Major Project of Education* 25 (August):22-29. UNESCO Regional Office for Education in Latin America and the Caribbean.

Laketch Dirasse. 1990. "Selected Issues in Gender and Education Research in the SADCC Region." In G. Mautle and F. Youngman, eds., *Educational Research in the SADCC Region*. Gaborone, Botswana: Botswana Educational Research Association.

Lakhloufi, Mohammed. 1991. "Investissement et Post-Investissement." Paper presented at a meeting of the DAE Working Group on Higher Education. June 1991, Dakar, Senegal.

Lamoure, Jean. 1992. *Studies of Transition from School to Work (Follow-Up and Tracer Studies): A Self-Instruction Manual*. Paris: International Institute for Educational Planning.

Levey, Lisbeth A. 1991. *Computer and CD-ROM Capability in Sub-Saharan African University and Research Libraries*. Washington, D.C.: American Association for the Advancement of Science.

Lowe, John. 1988. "African Science and Its Meaning for the Secondary School Classroom." Occasional Paper No. 11. University of London, Institute of Education, Department of International and Comparative Education, London.

Lungu, G. F. 1988. "Hierarchical Authority vs. Collegial Structures in an African University: Lessons from the University of Zambia." *Studies in Educational Administration* 47 (February): 14-20.

Mazrui, Ali A. 1992. "Towards Diagnosing and Treating Cultural Dependency: The Case of the African University." *International Journal of Educational Development*. 12(2): 95-111.

Mbajiorgu, M. S. N. 1991. "Innovative Responses to the Problem of Underfunding of Universities." Paper presented at the ECA/AAU Senior Policy Workshop on Resource Mobilization and Financing of African Universities. December 1991, Accra, Ghana.

Mosha, H. J. 1986. "The Role of African Universities in National Developments: A Critical Analysis." *Higher Education* 15: 113-134.

Mshigeni, Keto E. 1991. "Innovative Approaches to Financing Graduate Education and Research: A Case Study of the University of Dar es Salaam." *Higher Education Policy*. 5(2): 30-36.

Mwiria, Kilemi. 1991. "University Education in East Africa: The Quality Crisis." Draft. Nairobi: Bureau of Educational Research, Kenyatta University.

Mwiria, Kilemi. 1991. "The Role of Good Governance and Positive University-State Relations in Promoting University Development in Sub-Saharan Africa." Consultancy report, World Bank, Africa Technical Department, Education and Training Division, Washington, D.C.

Namuddu, Katherine. 1992. "Gender Perspectives in African Higher Education." Paper presented at a Senior Policy Seminar on Enhancing Effectiveness and Efficiency in African Higher Education. World Bank, Economic Development Institute, March 1992, Harare, Zimbabwe.

National Universities Commission (NUC). 1991. *Management Information Systems*. Lagos, Nigeria: National Universities Commission.

Ngu, Jacob L. 1992. "The Relevance of African Higher Education." Paper presented at a Senior Policy Seminar on Enhancing Effectiveness and Efficiency in African Higher Education. World Bank, Economic Development Institute, March 1992, Harare, Zimbabwe.

Nkinyangi, John A. 1991. "African Education in the Age of Student Revolt." *Higher Education Policy* 4 (2):47-51.

Nwa, E. U., and Pascal Houenou. 1990. *Graduate Education and R and D in African Universities*. Accra, Ghana: Association of African Universities.

Odhiambo, Thomas R., and T. T. Isoun. 1989. *Science for Development in Africa*. Nairobi, Kenya: ICIPE Science Press.

Ogbu, Osita M., and Mark Gallagher. 1991. "On Public Expenditures and Delivery of Education in Sub-Saharan Africa." *Comparative Education Review* 35 (2):295-318.

Ohio University. 1990. *Research Abstracts: Sixth African Educational Research Symposium*. Athens, Ohio: Center for Higher Education, Ohio University.

Omari, Issa M. 1991. "Innovation and Change in Higher Education in Developing Countries: Experiences from Tanzania." *Comparative Education* 27 (2):181-205.

Omari, Issa M. 1991a. "Student Unrest and Qualitative Improvements of Higher Education in Developing Countries." Draft. May 1991.

Omari, Issa M. 1991b. *Higher Education at Crossroads in Africa*. Nairobi, Kenya: I. M. Omari.

Onwumechili, C. Agodi. 1991. "Resource Planning/Allocation and Cost-Effectiveness: Trends in Higher Education Financing." paper presented at the UNESCO/AAU Seminar on Higher Education Governance and Management, November 1991, Accra, Ghana.

Orivel, Francois. 1988. "Couts, Financement et Efficacite des Universites de l'Afrique Sub-Saharienne Francophone." Working Paper. World Bank, Economic Development Institute, Division of Human Resources.

Orivel, Francois and Fabrice Sergent. 1988. "Foreign Aid to Education in Sub-Saharan Africa: How Useful Is It?" *Prospects* 18 (4):459-469.

Orsini, Deborah and David Harmon. 1988. *Private Sector Training Needs Assessment.* Human Resources Development Assistance Project, USAID/Togo.

Prah, Kwesi K. 1991. "Is Africa Losing Its Mind?" *Matlhasedi* 20 (1): 77-78.

Psacharopoulos, George. 1990. "Comparative Education: From Theory to Practice, or Are You A:\neo.* or B:*.ist? *Comparative Education Review* 34 (3):369-380.

Psacharopoulos, George. 1990a. "Priorities in the Financing of Education." *International Journal of Educational Development* 10 (2/3):157-162.

Psacharopoulos, George, and Maureen Woodhall. 1985. *Education for Development.* New York: Oxford University Press.

Ransom, Angela. 1988. *Financing Higher Education in Francophone West Africa.* Policy Seminar Report No. 12. World Bank, Economic Development Institute. Washington, D.C.: World Bank.

Rasheed, Sadig, and Crispin Grey-Johnson. 1987. *Higher Education in the Service of Africa's Socio-Economic Recovery and Accelerated Development.* Harare: University of Zimbabwe Press.

Rathgeber, Eva M. 1988. "A Tenuous Relationship: The African University and Development Policymaking in the 1980s." *Higher Education* 17:397-410.

Regel, Omporn. 1992. "The Academic Credit System in Higher Education: Effectiveness and Relevance in Developing Countries." Draft. World Bank, Population and Human Resources Department, Education and Employment Division, Washington, D.C.

Russell, Sharon, Karen Jacobsen, and William Deane Stanley. 1990. *International Migration and Development in Sub-Saharan Africa.* Volume 1. Africa Technical Department Series No. 101. Washington, D.C.: World Bank.

Salmi, Jamil. 1991. "Perspectives on the Financing of Higher Education." Paper presented at the Roundtable on "A Long Term Strategy for Financing Higher Education and Research in Developing Countries. International Association of Universities, November 1991, Accra, Ghana.

Ruijter, C.T.A. and J.H.P. Van Weeren. 1989. "Computer Assisted Learning in Higher Education in Developing Countries." In Hans Oosthoek and Ton Vroeijenstijn (eds.) *Higher Education and New Technologies*, pp. 461-472. New York: Pergamon Press.

Salmi, Jamil. 1992. "Higher Education and Economic Development: Strategies for Reform - A Policy Brief." Paper presented at the Senior Policy Seminar on Enhancing Effectiveness and Efficiency in African Higher Education. World Bank, Economic Development Institute, March 1992, Harare, Zimbabwe.

Sawyerr, Akilagpa. 1991. "Leadership and Organization of African Universities." Paper presented at the UNESCO/AAU Seminar on Higher Education Governance and Management, November 1991, Accra, Ghana.

Sawyerr, Akilagpa, and Jerome Djangmah. 1991. "Financing of African Universities: Past Trends and Future Prospects." Paper presented at the ECA/AAU Senior Policy Workshop on Resource Mobilization and Financing of African Universities.

Schiefelbein, Ernesto. 1990. "Chile: Economic Incentives in Higher Education." *Higher Education Policy*. 3 (3):21-25.

Senteza Kajubi, W. 1992. "Financing of Higher Education in Uganda." *Higher Education*. 23:433-441.

Sherman, Mary Antoinette Brown. 1990. "The University in Modern Africa: Toward the Twenty-First Century." *Journal of Higher Education* 61 (4): 363-385.

Shittu, Musiliyu. 1990. "National University Reform and Rationalization: The Nigerian Experience." Paper presented at a meeting of the DAE Working Group on Higher Education. December 1990, Accra, Ghana.

Southern Africa Development Coordination Conference (SADCC). 1991. *Study of Science and Technology: Part One - Main Report*. Gaborone, Botswana: SADCC.

Southern Africa Development Coordination Conference (SADCC). 1991a. "Human Resources: Primary Factor in Development." Theme paper for Annual Meeting of Heads of State. February 1991, Windhoek, Namibia.

Sutherland-Addy, Esi. 1992. "Access, Selection and Equity in African Higher Education." Paper presented at the Senior Policy Seminar on Enhancing Effectiveness and Efficiency in African Higher Education. World Bank, Economic Development Institute, March 1992, Harare, Zimbabwe.

Tarpeh, Dominic N. 1991. "Towards Enhanced Resource Mobilization and Financing of African Universities." Review commissioned by the Association of African Universities for the U.N. Economic Commission for Africa Workshop on Mobilization of Resources and Financing of African Universities. December 1991, Accra, Ghana.

Thulstrup, Erik. 1992. *Improving the Quality of Research in Developing Country Universities.* PHREE Background Paper No. 92/52. Washington, D.C.: World Bank.

Tindimubona, Alex R. 1992. "Research, Graduate Studies and Regional Cooperation in African Universities." Paper contributed by the African Academy of Sciences to the Senior Policy Seminar on Enhancing Effectiveness and Efficiency in African Higher Education. World Bank, Economic Development Institute, March 1992, Harare, Zimbabwe.

UNESCO. 1963. *The Development of Higher Education in Africa.* Paris: UNESCO.

UNESCO. 1964. *Outline of a Plan for Scientific Research and Training in Africa.* Paris: UNESCO.

UNESCO. 1987. *CASTAFRICA II: Science, Technology and Endogenous Development in Africa: Trends, Problems and Prospects.* Paris: UNESCO.

UNESCO. 1991. *Statistical Yearbook.* Paris: UNESCO.

Union of Democratic University Staff Associations (UDUSA). 1992. "Race, Gender and Academic Staff: Is Affirmative Action Necessary in South African Universities?" *UDUSA News.* January 1992.

Universidade Eduardo Mondlane. 1991. *Present and Perspectives.* Maputo, Mozambique: Eduardo Mondlane University.

University of Dar es Salaam. 1991. *Report of the Steering Committee on University Management Effectiveness Review.* Dar es Salaam: University of Dar es Salaam.

van Vught, Frans. 1992. "Autonomy and Accountability in Government/University Relations." Paper presented at the Work Bank Senior Policy Seminar on Enhancing Effectiveness and Efficiency in Sub-Saharan African Higher Education, March 1992, Harare, Zimbabwe.

Vandemoortele, Jan. 1991. *Employment Issues in Sub-Saharan Africa.* Nairobi, Kenya: African Economic Research Consortium.

Volunteers in Technical Assistance (VITA). 1991. *VITASAT: Global Communications for Development.* Arlington, Virginia: Volunteers in Technical Assistance.

Wandira, Asavia. 1977. *The African University in Development.* Johannesburg: Ravan Press.

Wagaw, Teshome. 1990. *The Development of Higher Education and Social Change: An Ethiopian Experience.* East Lansing: Michigan State University Press.

Wohlgemuth, Lennart. 1990. "Minimum Financial Requirements: Case Studies of Three African Universities." Paper presented at a meeting of the DAE Working Group on Higher Education. December 1990, Accra, Ghana.

Woodhall, Maureen. 1991. "Education and Training Under Conditions of Economic Austerity and Restructuring." UNESCO, Bureau for the Coordination of Operational Activities, Paris.

World Bank. 1988. *Education in Sub-Saharan Africa: Policies for Adjustment, Revitalization, and Expansion.* Washington, D.C.: World Bank.

World Bank. 1989. *Sub-Saharan Africa: From Crisis to Sustainable Growth.* Washington, D.C.: The World Bank.

World Bank. 1991. *The African Capacity Building Initiative: Toward Improved Policy Analysis and Development Management.* Washington, D.C.: World Bank.

World Bank. 1991a. "Capacity Building." *Africa Update.* Washington, D.C.: World Bank.

World Bank. 1992. *World Bank Support for Agricultural Higher Education.* Report No. 10751. Operations Evaluation Department. Washington, D.C.: World Bank.

Wright, Stephen. 1990. "Application of CD-ROM Technology to Libraries in Developing Countries." *Program* 24 (2):129-140.

Yesufu, T. M. 1973. *Creating the African University: Emerging Issues of the 1970s.* Ibadan, Nigeria: Oxford University Press.

Zymelman, Manuel. 1990. *Science, Education, and Development in Sub-Saharan Africa.* Washington, D.C.: World Bank.

# Distributors of World Bank Publications

**ARGENTINA**
Carlos Hirsch, SRL
Galeria Guemes
Florida 165, 4th Floor-Ofc. 453/465
1333 Buenos Aires

**AUSTRALIA, PAPUA NEW GUINEA, FIJI, SOLOMON ISLANDS, VANUATU, AND WESTERN SAMOA**
D.A. Books & Journals
648 Whitehorse Road
Mitcham 3132
Victoria

**AUSTRIA**
Gerold and Co.
Graben 31
A-1011 Wien

**BANGLADESH**
Micro Industries Development Assistance Society (MIDAS)
House 5, Road 16
Dhanmondi R/Area
Dhaka 1209

*Branch offices:*
156, Nur Ahmed Sarak
Chittagong 4000

74, K.D.A. Avenue
Kulna 9100

**BELGIUM**
Jean De Lannoy
Av. du Roi 202
1060 Brussels

**CANADA**
Le Diffuseur
C.P. 85, 1501B rue Ampère
Boucherville, Québec
J4B 5E6

**CHILE**
Invertec IGT S.A.
Americo Vespucio Norte 1165
Santiago

**CHINA**
China Financial & Economic Publishing House
8, Da Fo Si Dong Jie
Beijing

**COLOMBIA**
Infoenlace Ltda.
Apartado Aereo 34270
Bogota D.E.

**COTE D'IVOIRE**
Centre d'Edition et de Diffusion Africaines (CEDA)
04 B.P. 541
Abidjan 04 Plateau

**CYPRUS**
Cyprus College Bookstore
6, Diogenes Street, Engomi
P.O. Box 2006
Nicosia

**DENMARK**
SamfundsLitteratur
Rosenoerns Allé 11
DK-1970 Frederiksberg C

**DOMINICAN REPUBLIC**
Editora Taller, C. por A.
Restauración e Isabel la Católica 309
Apartado de Correos 2190 Z-1
Santo Domingo

**EGYPT, ARAB REPUBLIC OF**
Al Ahram
Al Galaa Street
Cairo

The Middle East Observer
41, Sherif Street
Cairo

**FINLAND**
Akateeminen Kirjakauppa
P.O. Box 128
SF-00101 Helsinki 10

**FRANCE**
World Bank Publications
66, avenue d'Iéna
75116 Paris

**GERMANY**
UNO-Verlag
Poppelsdorfer Allee 55
D-5300 Bonn 1

**HONG KONG, MACAO**
Asia 2000 Ltd.
46-48 Wyndham Street
Winning Centre
2nd Floor
Central Hong Kong

**INDIA**
Allied Publishers Private Ltd.
751 Mount Road
Madras - 600 002

*Branch offices:*
15 J.N. Heredia Marg
Ballard Estate
Bombay - 400 038

13/14 Asaf Ali Road
New Delhi - 110 002

17 Chittaranjan Avenue
Calcutta - 700 072

Jayadeva Hostel Building
5th Main Road Gandhinagar
Bangalore - 560 009

3-5-1129 Kachiguda Cross Road
Hyderabad - 500 027

Prarthana Flats, 2nd Floor
Near Thakore Baug, Navrangpura
Ahmedabad - 380 009

Patiala House
16-A Ashok Marg
Lucknow - 226 001

Central Bazaar Road
60 Bajaj Nagar
Nagpur 440010

**INDONESIA**
Pt. Indira Limited
Jl. Sam Ratulangi 37
P.O. Box 181
Jakarta Pusat

**ISRAEL**
Yozmot Literature Ltd.
P.O. Box 56055
Tel Aviv 61560
Israel

**ITALY**
Licosa Commissionaria Sansoni SPA
Via Duca Di Calabria, 1/1
Casella Postale 552
50125 Firenze

**JAPAN**
Eastern Book Service
Hongo 3-Chome, Bunkyo-ku 113
Tokyo

**KENYA**
Africa Book Service (E.A.) Ltd.
Quaran House, Mfangano Street
P.O. Box 45245
Nairobi

**KOREA, REPUBLIC OF**
Pan Korea Book Corporation
P.O. Box 101, Kwangwhamun
Seoul

**MALAYSIA**
University of Malaya Cooperative Bookshop, Limited
P.O. Box 1127, Jalan Pantai Baru
59700 Kuala Lumpur

**MEXICO**
INFOTEC
Apartado Postal 22-860
14060 Tlalpan, Mexico D.F.

**NETHERLANDS**
De Lindeboom/InOr-Publikaties
P.O. Box 202
7480 AE Haaksbergen

**NEW ZEALAND**
EBSCO NZ Ltd.
Private Mail Bag 99914
New Market
Auckland

**NIGERIA**
University Press Limited
Three Crowns Building Jericho
Private Mail Bag 5095
Ibadan

**NORWAY**
Narvesen Information Center
Book Department
P.O. Box 6125 Etterstad
N-0602 Oslo 6

**PAKISTAN**
Mirza Book Agency
65, Shahrah-e-Quaid-e-Azam
P.O. Box No. 729
Lahore 54000

**PERU**
Editorial Desarrollo SA
Apartado 3824
Lima 1

**PHILIPPINES**
International Book Center
Fifth Floor, Filipinas Life Building
Ayala Avenue, Makati
Metro Manila

**POLAND**
International Publishing Service
Ul. Piekna 31/37
00-677 Warszawa

*For subscription orders:*
IPS Journals
Ul. Okrezna 3
02-916 Warszawa

**PORTUGAL**
Livraria Portugal
Rua Do Carmo 70-74
1200 Lisbon

**SAUDI ARABIA, QATAR**
Jarir Book Store
P.O. Box 3196
Riyadh 11471

**SINGAPORE, TAIWAN, MYANMAR, BRUNEI**
Information Publications Private, Ltd.
Golden Wheel Building
41, Kallang Pudding, #04-03
Singapore 1334

**SOUTH AFRICA, BOTSWANA**
*For single titles:*
Oxford University Press Southern Africa
P.O. Box 1141
Cape Town 8000

*For subscription orders:*
International Subscription Service
P.O. Box 41095
Craighall
Johannesburg 2024

**SPAIN**
Mundi-Prensa Libros, S.A.
Castello 37
28001 Madrid

Libreria Internacional AEDOS
Consell de Cent, 391
08009 Barcelona

**SRI LANKA AND THE MALDIVES**
Lake House Bookshop
P.O. Box 244
100, Sir Chittampalam A. Gardiner Mawatha
Colombo 2

**SWEDEN**
*For single titles:*
Fritzes Fackboksforetaget
Regeringsgatan 12, Box 16356
S-103 27 Stockholm

*For subscription orders:*
Wennergren-Williams AB
Box 30004
S-104 25 Stockholm

**SWITZERLAND**
*For single titles:*
Librairie Payot
1, rue de Bourg
CH 1002 Lausanne

*For subscription orders:*
Librairie Payot
Service des Abonnements
Case postale 3312
CH 1002 Lausanne

**TANZANIA**
Oxford University Press
P.O. Box 5299
Maktaba Road
Dar es Salaam

**THAILAND**
Central Department Store
306 Silom Road
Bangkok

**TRINIDAD & TOBAGO, ANTIGUA BARBUDA, BARBADOS, DOMINICA, GRENADA, GUYANA, JAMAICA, MONTSERRAT, ST. KITTS & NEVIS, ST. LUCIA, ST. VINCENT & GRENADINES**
Systematics Studies Unit
#9 Watts Street
Curepe
Trinidad, West Indies

**TURKEY**
Infotel
Narlabahçe Sok. No. 15
Cagaloglu
Istanbul

**UNITED KINGDOM**
Microinfo Ltd.
P.O. Box 3
Alton, Hampshire GU34 2PG
England

**VENEZUELA**
Libreria del Este
Apdo. 60.337
Caracas 1060-A


BEST COPY AVAILABLE

RECENT WORLD BANK TECHNICAL PAPERS *(continued)*

No. 159 Liese, Sachdeva, and Cochrane, *Organizing and Managing Tropical Disease Control Programs: Lessons of Success*

No. 160 Boner and Krueger, *The Basics of Antitrust Policy: A Review of Ten Nations and the European Communities*

No. 161 Riverson and Carapetis, *Intermediate Means of Transport in Sub-Saharan Africa: Its Potential for Improving Rural Travel and Transport*

No. 162 Replogle, *Non-Motorized Vehicles in Asian Cities*

No. 163 Shilling, editor, *Beyond Syndicated Loans: Sources of Credit for Developing Countries*

No. 164 Schwartz and Kampen, *Agricultural Extension in East Africa*

No. 165 Kellaghan and Greaney, *Using Examinations to Improve Education: A Study in Fourteen African Countries*

No. 166 Ahmad and Kutcher, *Irrigation Planning with Environmental Considerations: A Case Study of Pakistan's Indus Basin*

No. 167 Liese, Sachdeva, and Cochrane, *Organizing and Managing Tropical Disease Control Programs: Case Studies*

No. 168 Barlow, McNelis, and Derrick, *Solar Pumping: An Introduction and Update on the Technology, Performance, Costs and Economics*

No. 169 Westoff, *Age at Marriage, Age at First Birth, and Fertility in Africa*

No. 170 Sung and Troia, *Developments in Debt Conversion Programs and Conversion Activities*

No. 171 Brown and Nooter, *Successful Small-Scale Irrigation in the Sahel*

No. 172 Thomas and Shaw, *Issues in the Development of Multigrade Schools*

No. 173 Byrnes, *Water Users Association in World Bank–Assisted Irrigation Projects in Pakistan*

No. 174 Constant and Sheldrick, *World Nitrogen Survey*

No. 175 Le Moigne and others, editors, *Country Experiences with Water Resources Management: Economic, Institutional, Technological and Environmental Issues*

No. 176 The World Bank/FAO/UNIDO/Industry Fertilizer Working Group, *World and Regional Supply and Demand Balances for Nitrogen, Phosphate, and Potash, 1990/91–1996/97*

No. 177 Adams, *The World Bank's Treatment of Employment and Labor Market Issues*

No. 178 Le Moigne, Barghouti, and Garbus, editors, *Developing and Improving Irrigation and Drainage Systems: Selected Papers from World Bank Seminars*

No. 179 Speirs and Olsen, *Indigenous Integrated Farming Systems in the Sahel*

No. 180 Barghouti, Garbus, and Umali, editors, *Trends in Agricultural Diversification: Regional Perspectives*

No. 181 Mining Unit, Industry and Energy Division, *Strategy for African Mining*

No. 182 Land Resources Unit, Asia Technical Department, *Strategy for Forest Sector Development in Asia*

No. 183 Nájera, Liese, and Hammer, *Malaria: New Patterns and Perspectives*

No. 184 Crosson and Anderson, *Resources and Global Food Prospects: Supply and Demand for Cereals to 2030*

No. 185 Frederiksen, *Drought Planning and Water Efficiency Implications in Water Resources Management*

No. 186 Guislain, *Divestiture of State Enterprises: An Overview of the Legal Framework*

No. 187 Geyndt, Zhao, and Liu, *From Barefoot Doctor to Village Doctor in Rural China*

No. 188 Silverman, *Public Sector Decentralization: Economic Policy and Sector Investment Programs*

No. 189 Frederick, *Balancing Water Demands with Supplies: The Role of Management in a World of Increasing Scarcity*

No. 190 Macklin, *Agricultural Extension in India*

No. 191 Frederiksen, *Water Resources Institutions: Some Principles and Practices*

No. 192 McMillan, Painter, and Scudder, *Settlement and Development in the River Blindness Control Zone*

No. 193 Braatz, *Conserving Biological Diversity: A Strategy for Protected Areas in the Asia-Pacific Region*

**The World Bank**

**Headquarters**
1818 H Street, N.W.
Washington, D.C. 20433, U.S.A.

Telephone: (202) 477-1234
Facsimile: (202) 477-6391
Telex: WUI 64145 WORLDBANK
RCA 248423 WORLDBK
Cable Address: INTBAFRAD
WASHINGTONDC

**European Office**
66, avenue d'Iéna
75116 Paris, France

Telephone: (1) 40.69.30.00
Facsimile: (1) 40.69.30.66
Telex: 640651

**Tokyo Office**
Kokusai Building
1-1 Marunouchi 3-chome
Chiyoda-ku, Tokyo 100, Japan

Telephone: (3) 3214-5001
Facsimile: (3) 3214-3657
Telex: 26838

Cover design by Joyce Petruzzelli

ISBN 0-8213-2310-5